

November 27, 2018

Mr. Winston Crow  
NGB/A7OR  
Sheppard Hall  
3501 Fetchet Avenue  
Joint Base Andrews, Maryland 20762-5157

**REFERENCE:**        **Contract W9133L-14-D-0007, Delivery Order 0011, FY17 Phase III  
Regional Site Inspections for Perfluorinated Compounds at Multiple  
Air National Guard Installations**

**SUBJECT:**           **Final Site Inspection Report for Kingsley Field ANGB**

Mr. Crow

Attached please find the above referenced document.

Should you have any questions, please contact me at 606.495.5149 or by email at  
[vestm@leidos.com](mailto:vestm@leidos.com).

LEIDOS



Matthew B. Vest, PMP, PG  
Project Manager

cc:     Ms. Susan Klypchak – NGB-AQ-E Contracting Specialist  
        Capt. Aubrey Higginbotham – NGB/A4OR Program Manager  
        Mr. Tom Barzyk – BB&E Surveillance and Oversight  
        Capt. Joseph Young – Kingsley Field ANGB Environmental Manager  
        Ms. Katie Robertson – Oregon DEQ Project Manager  
        Ms. Connie Samson – Leidos Program Manager  
        Mr. Selvam Arunachalam – Leidos Deputy Project Manager  
        Ms. Nancy Wahlquist – Leidos Project Controller  
        Leidos Project File

**FINAL**

**SITE INSPECTION REPORT  
FOR  
PERFLUOROOCTANE SULFONATE AND  
PERFLUOROOCTANOIC ACID  
AT  
KINGSLEY FIELD  
KLAMATH FALLS, OREGON**



**173<sup>rd</sup> Fighter Wing  
Oregon Air National Guard Kingsley Field  
Klamath Falls, Oregon**

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Contract Number W9133L-14-D-0007  
Task Order Number 0011

Prepared for

Air National Guard  
Restoration Branch  
NGB/A4OR  
3501 Fetchet Avenue  
Joint Base Andrews, Maryland 20762

Prepared by

Leidos  
11951 Freedom Drive  
Reston, Virginia 20190



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## ACRONYMS

µg/L	Micrograms per Liter
AFFF	Aqueous Film-Forming Foam
AMSL	Above Mean Sea Level
ANG	Air National Guard
ANGB	Air National Guard Base
BB&E	BB&E Inc.
BGS	Below Ground Surface
COC	Chemical of Concern
COPC	Chemical of Potential Concern
DoD	U.S. Department of Defense
DOI	U.S. Department of the Interior
DPT	Direct Push Technology
DQO	Data Quality Objective
EPA	U.S. Environmental Protection Agency
FD	Fire Department
FETA	Fire Department Testing Area
FSS	Fire Suppression System
FTA	Fire Training Area
FW	Fighter Wing
gpm	Gallons per Minute
HA	Health Advisory
HDPE	High-Density Polyethylene
HEF	High Expansion Foam
IDW	Investigation-Derived Waste
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NFA	No Further Action
ng/L	Nanograms per Liter
PA	Preliminary Assessment
PFAS	Per- and Polyfluoroalkyl Substances
PFBS	Perfluorobutane Sulfonate
PFHpA	Perfluoroheptanoic Acid
PFHxS	Perfluorohexane Sulfonate
PFNA	Perfluorononanoic Acid
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
PRL	Potential Release Location
QA	Quality Assurance
QC	Quality Control
QSM	Quality Systems Manual
RI	Remedial Investigation
RPD	Relative Percent Difference
RSL	Regional Screening Level
SI	Site Inspection
TestAmerica	TestAmerica Analytical Laboratories, Inc.
UCMR3	Third Unregulated Contaminant Monitoring Rule
UFP-QAPP	Uniform Federal Policy Quality Assurance Project Plan
USAF	U.S. Air Force

USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	Volatile Organic Compound
WP	Work Plan

## EXECUTIVE SUMMARY

Leidos was contracted to conduct Phase III regional site inspections (SIs) for perfluorinated compounds at multiple Air National Guard Bases (ANGBs). This report documents SI activities conducted at eight potential release locations (PRLs) at the Kingsley Field ANGB, Klamath Falls, Oregon. The primary objective of the SI was to determine the presence or absence of perfluorinated compounds, more specifically per- and polyfluoroalkyl substances (PFAS) on the U.S. Environmental Protection Agency (EPA) Third Unregulated Contaminant Monitoring Rule (UCMR3), including perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) perfluorobutane sulfonate (PFBS), perfluorononanoic acid (PFNA), perfluoroheptanoic acid (PFHpA), and perfluorohexane sulfonate (PFHxS), herein collectively referred to as PFOS/PFOA at each PRL, and based on the findings:

- Determine if PFOS/PFOA-contaminated groundwater has reached the Installation boundary;
- Provide a defensible no further action (NFA) decision for qualifying PRLs; and
- Develop data quality objectives (DQOs) for additional investigation for PRLs not meeting the NFA criteria or an interim response action, if appropriate.

To meet the objectives, Leidos performed SIs at the following eight PRLs:

- PRL 1: Hangar 333,
- PRL 2: Fire Equipment Testing Area (FETA) – North,
- PRL 3: FETA – South,
- PRL 4: FETA – Compass Rose,
- PRL 5: Building 573,
- PRL 6: Current and Former Fire Station – Building 216,
- PRL 7: North Outfall, and
- PRL 8: South Outfall.

Based on recommendations from the preliminary assessment (PA) and site visit conducted by BB&E, Inc. (BB&E) in September 2015, soil, groundwater, and surface water and sediment (if available) samples were collected and analyzed from eight PRLs. Collected samples were analyzed for PFOS/PFOA compounds. Oregon has established initiation level for four of the six UCMR3 compounds (PFOS, PFOA, PFHpA, and PFNA) in surface water which are to be considered guidance only. Oregon does not have criteria for soil, sediment, or groundwater. The detected PFOS/PFOA concentrations were compared against the more conservative screening criteria for PFOS, PFOA, and PFBS, including the EPA lifetime drinking water Health Advisory (HA) for PFOS and PFOA, the EPA Regional Screening Level (RSL) for PFBS in tap water, the EPA RSL for PFBS in residential soil, and calculated screening levels using the EPA screening level calculator for PFOS and PFOA in soil, as shown in Table ES-1.

PFOS/PFOA compounds were detected above the laboratory detection limits in the soil, groundwater, sediment, and surface water samples collected during the SI. Samples from five monitoring wells (MW-KLA01-01, MW-KLA03-01, MW-KLA04-01, MW-KLA06-01, MW-572-02-PRL05) located near the Installation boundary indicates detection of all six PFOS/PFOA compounds in the groundwater samples. The screening results indicate the consistent presence of PFOS and PFOA at concentrations exceeding the 70-nanograms per liter (ng/L) EPA drinking water HA (EPA 2016a and 2016b) near the Installation boundary.



**Table ES-1. PFOS/PFOA SI Screening Criteria**

<b>Parameter</b>	<b>Chemical Abstract Service Number</b>	<b>EPA RSL for Tap Water<sup>a</sup> (ng/L)</b>	<b>EPA Health Advisory<sup>b</sup> (ng/L)</b>	<b>Residential Risk-based Soil Screening Level<sup>c</sup> (µg/kg)</b>
PFOS	1763-23-1	NA	70.0 <sup>d</sup>	1,260
PFOA	335-67-1	NA		1,260
PFBS	375-73-5	400,000 <sup>e</sup>	NA	1,260,000

<sup>a</sup> EPA RSL for tap water, May 2018; target HQ =1.

<sup>b</sup> *Drinking Water Health Advisory for Perfluorooctane Sulfonate* (EPA 2016a) and *Drinking Water Health Advisory for Perfluorooctanoic Acid* (EPA 2016b).

<sup>c</sup> Residential risk-based soil screening levels determined by using the EPA RSL calculator ([https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl\\_search](https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search)) and the May 2018 EPA RSL tables (<https://epa.gov/risk/regional-screening-levels-rsls-generic-tables-may-2018>) for soil and sediment; target HQ = 1.

<sup>d</sup> When PFOA and PFOS are both present, the combined detected concentrations of the compounds are compared with the 70-ng/L health advisory value.

<sup>e</sup> PFBS analytical results for groundwater and surface water have been compared to the tap water screening levels; target HQ =1.

µg/kg = Micrograms per kilogram.

EPA = U.S. Environmental Protection Agency.

NA = Not available.

ng/L = Nanograms per liter.

PFBS = Perfluorobutane sulfonate.

PFOA = Perfluorooctanoic acid.

PFOS = Perfluorooctane sulfonate.

RSL = Regional screening level.

SI = Site inspection.

Based on comparison of analytical data to the screening criteria in Table ES-1, Leidos recommends further investigations at all PRLs. Additional investigations are recommended for soil and groundwater at PRLs 1, 2, 3, 4, 5, and 6 and for sediment and surface water at PRLs 7 and 8. The recommendations are summarized in Table ES-2 and described briefly below:

- Further investigation is necessary to determine the nature and extent of PFOS/PFOA contamination due to detectable levels at all PRLs.
- Develop an expanded conceptual site model that considers localized groundwater and surface water flow paths to select future sampling locations.
- Complete the delineation of nature and extent of PFAS as part of an Expanded SI or a remedial investigation (RI) that could consist of:
  - Additional soil and sediment sampling and analysis of an expanded list of PFAS constituents (in addition to the six UCMR3 constituents) to determine if significant source areas related to precursor substances are present. Precursor substances have been demonstrated to oxidize into PFOS and PFOA, and thus could provide a lingering source of these compounds to soil and groundwater.
  - Expanded groundwater sampling program (including analysis of an expanded list of PFAS constituents) to complete horizontal and vertical delineation of the PFOS/PFOA impacts. Further groundwater investigation at the Base boundary is recommended due to the presence of PFAS in groundwater above their screening criteria.

- The installation and sampling of upgradient monitoring wells and downgradient off-Base monitoring wells to better define the upgradient source of PFOS/PFOA as well as impacts of PFOS/PFOA that have migrated off Base.
- The sampling of upgradient and downgradient off-Base surface water and sediment (including analysis of an expanded list of PFAS constituents) to determine if an upgradient source of PFOS/PFOA exists and better define the nature and extent of PFOS/PFOA in surface water that have migrated off Base.
- Conduct preliminary site-specific risk assessment calculations in order to identify chemicals of potential concern (COPCs) in every media and establish preliminary remedial goals for screening purposes.

DQOs are proposed based on the results of the SI and are presented in Table ES-2. In general, additional samples are required at each PRL in order to establish the nature and extent of PFOA/PFOS constituents for each applicable medium and determine if a complete receptor pathway exists. For soil additional samples are proposed to delineate the nature and extent and to determine if a source area exists, and if so, the vertical and horizontal extent for both the vadose and saturated zones. Additional surface water and sediment samples should be collected at PRLs 7 and 8.

Table ES-2. SI Recommendation Summary Table

PRL No.	PRL Description	Constituents Above Screening Criteria	Sampling Recommendations and Objectives
1	Hangar 333	<b>Groundwater:</b> PFOS + PFOA	<b>Soil:</b> Although screening criteria were not exceeded, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. <b>Groundwater:</b> Although soil screening criteria were not exceeded at PRL 1, there were exceedances in groundwater at the downgradient well MW-KLA01-01. Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.
2	FETA – North	<b>Groundwater:</b> PFOS + PFOA	<b>Soil:</b> Although screening criteria were not exceeded, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. <b>Groundwater:</b> Although soil screening criteria were not exceeded at PRL 2, exceedances occurred in groundwater at downgradient well MW-KLA02-01. Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.
3	FETA – South	<b>Groundwater:</b> PFOS + PFOA	<b>Soil:</b> Although screening criteria were not exceeded, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. <b>Groundwater:</b> Although soil screening criteria were not exceeded at PRL 3, exceedances occurred in groundwater at downgradient well MW-KLA03-01. Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.
4	FETA – Compass Rose	<b>Soil:</b> PFOS <b>Groundwater:</b> PFOS + PFOA	<b>Soil:</b> Additional surface and subsurface soil samples are proposed to further define the nature and extent of PFOS soil exceedances and to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. <b>Groundwater:</b> Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.
5	Building 573	<b>Soil:</b> PFOS <b>Groundwater:</b> PFOS + PFOA	<b>Soil:</b> Additional surface and subsurface soil samples are proposed to determine the extent of the one PFOS exceedance and to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. <b>Groundwater:</b> Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.
6	Current and Former Fire Station – Building 216	<b>Soil:</b> PFOS <b>Groundwater:</b> PFOS + PFOA	<b>Soil:</b> Additional surface and subsurface soil samples are proposed to determine the extent of the one PFOS exceedance and to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. <b>Groundwater:</b> Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.

Table ES-2. SI Recommendation Summary Table (continued)

PRL No.	PRL Description	Constituents Above Screening Criteria	Sampling Recommendations and Objectives
7	North Outfall	None	<b>Surface Water and Sediment:</b> PFOS/PFOA compounds were detected in sediment below screening criteria. Determine the PFOS/PFOA impact to surface water through additional upgradient sampling of surface water and sediment and evaluate potential downgradient impacts at the outfall located off Base.
8	South Outfall	None	<b>Surface Water and Sediment:</b> PFOS/PFOA compounds were detected in surface water below screening criteria. Determine the PFOS/PFOA impact to surface water through additional upgradient sampling of surface water and sediment and evaluate potential downgradient impacts at the outfall located off Base.
<b>General</b>			<p><b>Soil:</b> Collect additional surface and subsurface soil samples to determine the nature and extent both vertically and horizontally of the exceedances and to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration.</p> <p><b>Groundwater:</b> (1) Collect additional groundwater samples in upgradient locations to quantify potential impacts from upgradient sources, and (2) collect additional groundwater samples off Base through the installation of a limited number of new monitoring wells to determine if PFOS/PFOA impacts beyond the Base boundary are increasing or decreasing.</p> <p><b>Surface Water/Sediment:</b> (1) Collect additional surface water and sediment samples in upgradient locations to quantify potential impacts from upgradient sources; (2) collect additional surface water and sediment samples from downgradient locations off Base to define the nature and extent of PFAS contamination beyond the Base boundary.</p>

FETA = Fire equipment testing area.  
PFOA = Perfluorooctanoic acid.  
PFOS = Perfluorooctane sulfonate.  
PRL = Potential release location.  
SI = Site inspection.

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# 1.0 INTRODUCTION

Leidos has prepared this Site Inspection (SI) Report to satisfy the requirements of Task Order 0011 of National Guard Bureau Contract Number W9133L-14-D-0007. Under this Task Order, Leidos was contracted to conduct Phase III regional SIs for perfluorinated compounds at multiple Air National Guard Bases (ANGBs). This report documents SI activities conducted at eight potential release locations (PRLs) at the Oregon Air National Guard (ANG) at Kingsley Field, Klamath Falls, Oregon, herein referred to as Kingsley Field ANGB, the Installation, or the Base (Figure 1). (Note that all figures and tables are presented at the end of the document.) All field activities were conducted in accordance with the *Work Plan for Fiscal Year 2017 Phase III Regional Site Inspections for Perfluorooctane Sulfonate and Perfluorooctanoic Acid at Kingsley Field Air National Guard Base, Klamath Falls, Oregon* (Leidos 2018).

## 1.1 PROJECT OBJECTIVES AND SCOPE

The primary objective of the SI was to determine the presence or absence of perfluorinated compounds, more specifically per- and polyfluoroalkyl substances (PFAS) on the U.S. Environmental Protection Agency (EPA) Third Unregulated Contaminant Monitoring Rule (UCMR3), including perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA), perfluorobutane sulfonate (PFBS), perfluorononanoic acid (PFNA), perfluoroheptanoic acid (PFHpA), and perfluorohexane sulfonate (PFHxS), herein collectively referred to as PFOS/PFOA.

Surface and subsurface soil, groundwater (downgradient from the PRL and near the Installation boundary), and surface water and sediment (if available) were sampled and analyzed to determine the presence or absence of PFOS/PFOA in environmental media at the PRLs identified during the 2015 preliminary assessment (PA) (BB&E 2015) and to:

- Determine if PFOS/PFOA-contaminated groundwater has reached the Installation boundary;
- Provide a defensible no further action (NFA) decision for qualifying PRLs; and
- Develop data quality objectives (DQOs) for additional investigation for PRLs not meeting the NFA criteria or an interim response action if appropriate.

The scope of work consisted of three inter-related tasks: (1) prepare an SI Work Plan (WP), (2) conduct SI and data collection activities, and (3) evaluate data from the field effort and applicable historical information to present conclusions and recommendations in an SI Report.

Sampling of drinking water sources (other than the on-Base potable water supply that was used for decontamination activities) was not included, and determination of nature and extent of any identified contamination was not within the scope of this SI.

Eight PRLs, as listed in Table 1 and depicted in Figure 2, were selected for SI activities based upon the PA and site visit conducted by BB&E, Inc. (BB&E) in September 2015 and reported in the *Perfluorinated Compounds Preliminary Assessment Site Visit Report, 138<sup>th</sup> Fighter Wing, Oklahoma Air National Guard, Kingsley Field, Klamath Falls, Oregon* (BB&E 2015). This SI Report briefly summarizes the PA, describes SI field activities, presents analytical results of environmental sampling, and provides recommendations for each PRL.

## 1.2 REGULATORY OVERVIEW AND SCREENING CRITERIA

In 2012, EPA published the UCMR3, which required public water supplies across the country to sample for a list of 30 unregulated contaminants, including 6 chemicals of concern (COCs) relevant to this SI (PFOS, PFOA, PFBS, PFNA, PFHpA, and PFHxS; i.e., PFOS/PFOA). Results of UCMR3-required sampling indicated detections of PFOS/PFOA at numerous locations, including several near U.S. Department of Defense (DoD) facilities. PFOS/PFOA detections at DoD facilities are often linked to the use of aqueous film-forming foam (AFFF), which may contain one or more of these chemicals. AFFF is a firefighting agent used to suppress fires involving petroleum hydrocarbons.

Detected concentrations of PFOS/PFOA in environmental samples collected during the Kingsley Field ANGB SI were compared against soil and water screening criteria for PFOS, PFOA, and PFBS, as described below and listed in Table 2.

The May 2018 EPA generic regional screening level (RSL) table lists a residential risk-based screening level for tap water for PFBS of 400 micrograms per liter ( $\mu\text{g/L}$ ) (400,000 nanograms per liter ( $\text{ng/L}$ ); target hazard quotient = 1). Currently, no legally enforceable federal standards exist for PFOS/PFOA in water. However, under the Safe Drinking Water Act, EPA issued a series of health advisories (HAs) for PFOS/PFOA, including the most recent in May 2016. To provide Americans, including the most sensitive populations, with a margin of protection from a lifetime of exposure to PFOS/PFOA in drinking water, EPA established an HA level for PFOS and PFOA (combined) of 70  $\text{ng/L}$ . The HA of 70  $\text{ng/L}$  applies to PFOS and PFOA individually as well as combined. If an individual compound is detected  $>70 \text{ ng/L}$ , the screening criteria are exceeded. However, if individual compounds are  $<70 \text{ ng/L}$  but the sum of the compounds is  $>70 \text{ ng/L}$ , the screening criteria are exceeded. For example, if PFOS = 50  $\text{ng/L}$  and PFOA = 25  $\text{ng/L}$ , the screening criteria are exceeded. Therefore, screening levels for groundwater and surface water are as follows:

- PFOS and PFOA = 70  $\text{ng/L}$ ; and
- PFBS = 400,000  $\text{ng/L}$ .

There are also no legally enforceable federal standards for PFOS/PFOA in soil or sediment. The May 2018 EPA generic RSL table lists a residential risk-based screening level for soil for PFBS of 1,300,000  $\mu\text{g/kg}$ . Following the process utilized at other ANG Installations around the country, Leidos will use residential risk-based screening levels for soil determined using the EPA RSL calculator and the May 2018 RSL tables. The calculated screening value for PFBS is slightly less than the value listed in the generic RSL table. RSLs are only available for three of the six COCs listed above. The calculated screening levels for these three COCs are as follows:

- PFOS = 1,260  $\mu\text{g/kg}$ ;
- PFOA = 1,260  $\mu\text{g/kg}$ ; and
- PFBS = 1,260,000  $\mu\text{g/kg}$ .

No surface water or sediment screening criteria have been established by EPA at this time.

As of the preparation of this SI Report, no site-specific soil, sediment, or groundwater screening levels have been developed in Oregon. However, Oregon has established initiation levels for PFOS, PFOA, PFNA, and PFHpA in surface water. The initiation levels for surface water are as follows:

- PFOS = 24,000  $\text{ng/L}$ ;
- PFOA = 300,000  $\text{ng/L}$ ;

- PFNA = 1,000 ng/L; and
- PFHpA = 300,000 ng/L.

The initiation levels for surface water are provided for guidance only.

The SI results will be compared against the screening criteria provided in Table 2. Sediment results will be compared with the soil screening criteria and the surface water results will be compared with the groundwater screening criteria provided in this table.



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## **2.0 INSTALLATION DESCRIPTION**

### **2.1 LOCATION**

Kingsley Field ANGB is the home of the 173<sup>rd</sup> Fighter Wing (FW) in Klamath Falls, Klamath County, in southern Oregon. Kingsley Field ANGB is located on the western side of Crater Lake-Klamath Regional Airport, approximately 4 miles south of the city of Klamath Falls. The entire airport comprises approximately 1,200 acres, owned and operated by the city of Klamath Falls. The 173<sup>rd</sup> FW leases approximately 256 acres of Exclusive Use Area in the western portion of Kingsley Field. The Kingsley Field ANGB location is shown in Figure 1.

### **2.2 ORGANIZATION AND HISTORY**

The airfield at Kingsley Field was established as Klamath Falls Municipal Airport (currently known as Crater Lake-Klamath Regional Airport) in 1928. In 1942, the U.S. Navy selected the Airport as a site for a naval air station, and construction of that station was completed in 1945. The airfield and building area consisted of 3,200-ft-wide runways of varying lengths, several buildings, and a variety of hangar facilities (NGB 2011).

After World War II, the air station was closed following less than 1 year of operation. A portion of the facility was returned to the city of Klamath Falls for use as a municipal airport, and the remainder was turned over to the U.S. Department of the Interior (DOI). In 1954, the DOI property was transferred to the U.S. Air Force (USAF) to establish an all-weather fighter interceptor complex. Part of the city-owned property was leased to the USAF to meet the requirements of the new mission. Existing buildings were rehabilitated, and new buildings were constructed beginning in 1955. The airport was dedicated as Kingsley Field in 1957 (NGB 2011).

In 1979, the USAF realignment removed active USAF units from Kingsley Field, and in 1981, the 142<sup>nd</sup> Fighter Interceptor Group of the Oregon ANG assumed alert detachment responsibility for air defense alert from USAF. In 1986, unit training assembly weekends began. The fighter training squadron was renamed the 173<sup>rd</sup> FW in 1996. Over the years, the unit has been assigned several different kinds of aircraft. The latest conversion to the F-15 aircraft occurred in 1998. As an F-15 Formal Training Unit, Air Education and Training Command, the mission of the 173<sup>rd</sup> FW is to train air-to-air combat pilots, train flight surgeons (Top Knife), and serve Oregon and the Nation in times of peace and war (NGB 2011).

DoD began investigations at military bases under the Installation Restoration Program with the goal of identifying, evaluating, and remediating areas of contamination (the program is now referred to as the Environmental Restoration Program). These investigations included PAs, site investigations, removal action investigations, and remedial investigations (RIs). Prior to the BB&E 2015 PA, potential releases of PFOS/PFOA from use and storage of AFFF had not been evaluated at Kingsley Field ANGB.

Base operations that could have contributed to PFOS/PFOA contamination of soil, groundwater, sediment, and surface water include fire training areas (FTAs) and non-FTAs. FTA PRLs are sites where AFFF was likely used for fire suppression during training activities. No FTAs are located on Kingsley Field ANGB property. Non-FTA PRLs identified at Kingsley Field ANGB are sites where AFFF was stored, released, and/or likely to have been released, and include the aircraft maintenance building/hangar (PRL 1), former vehicle maintenance building (PRL 5), fire station (PRL 6), Fire Equipment Testing Area (FETA) (PRLs 2, 3, and 4), and stormwater outfalls (PRLs 7 and 8) (BB&E 2015).

When AFFF is released to the environment, PFOS/PFOA can migrate into soil and groundwater. The amount of PFOS/PFOA that migrates to groundwater depends on the type and amount of AFFF used, where it was used, the type of soil, and other factors. PFOS/PFOA may migrate readily from soil to groundwater. The primary exposure pathway for PFOS/PFOA is the ingestion of contaminated drinking water.

## **3.0 ENVIRONMENTAL SETTING**

### **3.1 CLIMATE**

Kingsley Field ANGB is in Klamath County, Oregon, and is located in a semi-arid climate that experiences warm summers and cool winters with occasional periods of cold. The average annual temperature is 45.9°F, ranging from an average low of 20.8°F to an average high of 83.6°F. The mean annual precipitation at Klamath Falls is approximately 20.72 in., with about 70% of the total precipitation occurring from October through May. The average number of days with 0.1 in. or more of precipitation is 55.90. Klamath Falls gets significant snowfall, with an annual average of 65.33 in. of snow and an average of 65.18 days with 1 in. of snow or more (USA.com 2017).

### **3.2 TOPOGRAPHY**

Kingsley Field ANGB is generally flat, although regionally, the area slopes gently to the east. The local topography generally slopes to the north toward the Bird Creek drainage area. Tulsa International Airport is 667 ft above mean sea level (AMSL) with Kingsley Field ANGB averaging 610 ft AMSL. Kingsley Field ANGB is located at an elevation of approximately 4,089 ft AMSL.

### **3.3 GEOLOGY**

Klamath Falls is located on the dry lower Klamath Lake Bed in south-central Oregon, on a plain that slopes gently to the southeast. The geologic structure of the Klamath Falls area is dominated by a number of northwest/southeast-trending normal faults. Movement along these faults produces horst and graben features that are typical of Basin and Range geologic structure. The uplifted horst blocks commonly form the ridges typical in this area, while the down faulted graben features form the valleys. Kingsley Field is located in such a valley. Faulting that has occurred along the valley floors usually has no obvious surface expression. No faults are known to exist beneath Kingsley Field; however, the existence of a fault a short distance from the facility is suggested by the presence of shallow geothermal water (CH2M Hill 1981).

Klamath Falls is situated within an area that was covered by ancestral Lake Klamath during the Pleistocene Era. The facility is underlain by a thick sequence of Quaternary alluvial sediments. The actual thickness is unknown, but geothermal test wells near the Base have been drilled to depths greater than 1,500 ft below ground surface (BGS) without encountering bedrock (CH2M Hill 1981). The sediments underlying the facility are composed of sand, silt, and clay, primarily of lacustrine origin. The finer-grained sediments were deposited in areas of the lake relatively far from the shoreline. The coarser sands were deposited near the shoreline or in beds of streams feeding the lake. This depositional system resulted in alternating layers of fine silty sand, sandy silt, silt, and clayey silt that are laterally discontinuous (ANG 2014). Borings and well installations conducted during the Leidos SI did not encounter bedrock (Appendix A).

### **3.4 SOIL**

The soils that underlie the Base are primarily of the Henley, Poe, Laki, Malin, and Hosley series. These are generally poorly drained soils developed on low terraces of floodplains/lake bottoms from alluvial or lacustrine sediments, some from volcanic materials such as ash or tuff. Some of these soils have an indurated hardpan layer beginning at depths of 2 to 3 ft BGS (Science and Technology, Inc. 1993). Native, near-surface soil has been observed to be poorly graded, fine to coarse sand with varying amounts of silt. Soils identified during the Leidos SI typically consisted of sand, silty sand, and gravel.

### 3.5 SURFACE WATER HYDROLOGY

No natural or significant surface water bodies, navigable waterways, or wetlands are present at Kingsley Field ANGB. Klamath River is the major surface body of water located to the northwest of Kingsley Field ANGB.

Surface water flow at Kingsley Field ANGB is dictated by the Base's man-made surface drainage system. Precipitation will predominantly infiltrate the sandy and permeable shallow surface soils. Precipitation on paved surfaces will generally be collected by the Base's storm drain system and discharge to the drainage ditches and canals located to the east and west of the Base (ANG 2014). These ditches flow to the North and South Outfalls.

The North Outfall (PRL 7) is located outside the northern Base boundary at the northern boundary of the Klamath Falls Airport. The North Outfall appears to drain northward to the Number One C Drain then west to the Klamath River. The South Outfall (PRL 8) is located outside of the Base boundary in the western-central portion of the Klamath Falls Airport. The South Outfall discharges the majority of the stormwater from Kingsley Field ANGB, including five PRLs. The South Outfall appears to drain to the Lost River Diversion Channel and then discharges to the Klamath River.

The Base is located approximately 3 miles west-northwest of Lost River and approximately 3 miles east-southeast of the Klamath River. The Lost River Diversion Canal, which is an irrigation canal, connects the two basins. A series of drainage ditches and culverts control surface runoff throughout Kingsley Field. The surface runoff is eventually diverted to the Lost River Diversion Canal (URS 2010).

### 3.6 HYDROGEOLOGY

Regional groundwater movement in the Sedimentary Aquifer is generally southeasterly toward the Lost River and the Lost River Diversion Channel. The U.S. Geological Survey (USGS) reports that the regional groundwater flow gradient in the Kingsley Field area is toward the southeast (USGS 2007). In some areas, the Sedimentary Aquifer contains coarser sands of relatively high hydraulic conductivity that can yield moderate quantities of water. In the vicinity of Kingsley Field, only a small quantity of sand is present in the subsurface, and well yields are relatively low. An average specific capacity of 0.45 gal per minute (gpm) per foot of drawdown was indicated for wells completed into the Sedimentary Aquifer (Illian 1971). However, a 79-ft test well drilled in the vicinity yielded 200 gpm with a drawdown of only 25 ft (8 gpm per foot). This well and other nearby test borings indicate the presence of a permeable shallow aquifer in this area. The low yields of other nearby wells indicate that the sand encountered in these test wells is probably of limited areal extent and may be an ancient river channel (CH2M Hill 1981).

The groundwater information collected from the existing monitoring wells in the vicinity of PRL 5 and the five new monitoring wells installed in PRLs 1 through 4 and 6 during the Leidos SI field activities confirmed a southeasterly flow of shallow groundwater. The shallow water table occurs at varying depths within Kingsley ANGB. Soil boring logs indicate shallow groundwater was encountered at depths ranging from 5.5 ft BGS in KLA01-SB3 to 7.5 ft BGS in KLA01-SB2. Groundwater levels collected before purging and sampling monitoring wells installed during the SI indicate the depth to shallow groundwater ranged from 4.65 ft BGS in MW-572-02-PRL05 and MW-573-03-PRL05 to 8.24 ft BGS in MW-KLA06-01.

Groundwater in the vicinity of Kingsley Field is reported to be of moderate quality with high concentrations of methane or iron (CH2M Hill 1981). No drinking water wells are located on Kingsley ANGB, and water used at the Base is supplied by the city of Klamath Falls (ANG 2014). City water supplies are obtained from deep groundwater wells ranging in depth from 300 to more than 1,000 ft (City of Klamath Falls 2017).

### 3.7 CRITICAL HABITATS AND ENDANGERED/THREATENED SPECIES

According to the U.S. Fish and Wildlife Service (USFWS) and a review of the list of federally listed threatened and endangered species, the following federally listed threatened, endangered, or proposed species are known to or are believed to occur in Klamath County, Oregon (USFWS 2017). The potential for these species to occur in Klamath County does not mean they are present at Kingsley Field ANGB:

- Amphibians:
  - Oregon spotted frog (*Rana pretiosa*) – Threatened.
- Birds:
  - Yellow-billed cuckoo (*Coccyzus americanus*) – Threatened, and
  - Northern spotted owl (*Strix occidentalis caurina*) – Threatened.
- Conifers and cycads:
  - Whitebark pine (*Pinus albicaulis*) – Candidate.
- Fishes:
  - Lost River sucker (*Deltistes luxatus*) – Endangered,
  - Shortnose sucker (*Chasmistes brevirostris*) – Endangered, and
  - Bull trout (*Salvelinus confluentus*) – Threatened.
- Flowering plants:
  - Hoover’s spurge (*Chamaesyce hooveri*) – Threatened,
  - Gentner’s fritillary (*Fritillaria gentneri*) – Endangered,
  - Slender orcutt grass (*Orcuttia tenuis*) – Threatened,
  - Greene’s tuctoria (*Tuctoria greenei*) – Endangered, and
  - Applegate’s milk-vetch (*Astragalus applegatei*) – Endangered.
- Mammals:
  - Gray wolf (*Canis lupus*) – Endangered, and
  - Northern American wolverine (*Gulo gulo luscus*) – Proposed Threatened.

Kingsley Field has the presence of Applegate’s milk-vetch, and the stormwater outfalls lead to water containing the Lost River sucker.

Wetlands have not been formally delineated and mapped to date within the Kingsley Field ANGB Exclusive Use Area. According to USFWS National Wetlands Inventory Maps and the Klamath Falls Airport Wildlife Habitat Management Implementation Plan, however, several areas of wetlands totaling approximately 45 acres are located in the vicinity of Kingsley Field. Other sources, such as the Kingsley Field ANGB Master Plan, indicate as little as about 10 acres of wetlands on the facility (ANG Kingsley Field 2009). These areas fall under the jurisdiction of the U.S. Army Corps of Engineers or the Oregon Department of State Lands. None of the mapped wetland areas, however, are located on the developed sections of Kingsley Field ANGB (although they have seen significant disturbance). Approximately 23 acres of wetlands have been filled by implementing the airport’s Wildlife Habitat Management Implementation Plan (Klamath Falls Airport 2005). However, the noted wetlands were not present in the vicinity of the PRLs included in this SI.

### **3.8 WATER WELLS**

The PA Report (BB&E 2015) indicates there are no federal or public water wells within a 1-mile radius of the Base. A review of the EDR Radius Map™ Report with Geocheck® dated July 20, 2015 (EDR 2015) shows two water wells within a 1-mile radius of the Base. Based on the information provided for these two wells located southwest of the Base, they are either observational or test wells. According to Base personnel, no drinking water wells are located at the Base. Water is supplied from the city of Klamath Falls (ANG 2014). City water supplies are obtained from deep groundwater wells ranging in depth from 300 to more than 1,000 ft (City of Klamath Falls 2017).

## 4.0 PRELIMINARY ASSESSMENT

In September 2015, BB&E conducted a PA to identify potential sites of historical environmental releases of PFOS/PFOA related to AFFF usage and storage at Kingsley Field ANGB (BB&E 2015). The PA evaluated a total of eight PRLs and recommended six of these for further investigation under an SI (Table 2; see also Figure 1). At the time of the 2015 PA, no documentation was available showing that soil, groundwater, sediment, and surface water at Kingsley Field ANGB were previously tested for PFOS/PFOA; therefore, these compounds could be present in media at any of these PRLs. However, prior to this SI, ANG requested that all eight PRLs be further investigated (see Section 5.1.2).

BB&E researched the potential existence of any documented FTAs or any other use or release of AFFF. No evidence was found that a current or former FTA that utilized AFFF was located within the footprint of the Kingsley Field ANGB site boundary.

The PA site visit included onsite interviews with active and former personnel from the ANGB and other parties with relevant historical site knowledge. According to Base personnel, 3% AFFF was used at Kingsley Field ANGB from approximately 1987 to 2013, and the only exception is that AFFF is still stored and used at the fire station (PRL 6). One hangar (Hangar 333) was equipped with an AFFF fire suppression system (FSS); the FSS was converted to a high expansion foam (HEF) system.

The sections below briefly describe the operational history and waste characteristics of the PRLs included in this SI, as presented in the PA Report (BB&E 2015). PRL numbers correspond to the area of concern designation used in the PA Report, and all building descriptions, AFFF inventories, and release histories reflect conditions at the time of the 2015 BB&E site visit.

### 4.1 PRL 1: HANGAR 333 – FUEL CELL MAINTENANCE DOCK

Hangar 333's FSS with AFFF was installed in 1987. In 2007, approximately 200 gal of AFFF plus associated water were released at Hangar 333 (total volume unknown). As shown in Figure 1-1, PRL 1 has two distinct areas. Most of the AFFF and water mixture was contained inside the building where floor drains are connected to the sanitary sewer. The floor drains were reportedly plugged at the time of the release. This mixture of AFFF and water was removed by hand (e.g., temporary trash pumps) and discharged east of the hangar, across the taxiway, and into a grassy area adjacent to the taxiway. The FSS was converted from AFFF to HEF in 2012 to 2013.

### 4.2 PRL 2: FETA – NORTH

From approximately 1995 to 2005, AFFF testing from three fire trucks would occur every Monday at one of three locations: the North FETA, the South FETA, or the Compass Rose FETA. Typically, the fire department (FD) utilized 3% AFFF. The estimated amount of AFFF released weekly was 3 to 4 gal per testing event; exact discharge quantities are unknown. The North FETA is a flat, grass- and dirt-covered area (an estimated 1- to 2-acre area) located southeast of the alert apron adjacent to the Pelican Aviation (Building 8) ramp. Fire trucks would typically pull up near the edge of the paved road area east of Pelican Aviation and conduct foam testing in a northerly direction, to the north of Pelican Aviation, south of Taxiway A, and west of the north-south access road located immediately east of Pelican Aviation (Building 8). AFFF released during testing would likely have infiltrated permeable surface soils in this area.

Because FETA – North was determined to be outside the Base boundary, it was not included in the SI WP. However, ANG requested soil and groundwater samples be collected from this PRL during the SI. The PRL 2 field investigation will be documented as a field change in the SI Report (Section 5.1.2).



#### **4.3 PRL 3: FETA – SOUTH**

From approximately 1995 to 2005, AFFF testing from three fire trucks would occur every Monday at one of three locations: the North FETA, the South FETA, or the Compass Rose FETA. Typically, the FD utilized 3% AFFF. The estimated amount of AFFF released weekly was 3 to 4 gal per testing event; exact discharge quantities are unknown. The South FETA is a flat, grass- and dirt-covered area (an estimated approximately 1- to 2- acre area) located along the northern side of the far western end of Runway 725, west of Taxiway D. Fire trucks would typically pull up along the northern edge of Runway 725 at the far western end and conduct foam testing in a northerly direction. AFFF released during testing would likely have infiltrated permeable surface soils in this area.

The PA Report (BB&E 2015) identified the northern portion of this PRL to be within the Base boundary, and this PRL was included in the SI scope. More recent updates to the Base boundary show this PRL to be fully outside the Base boundary, and this information was confirmed during the Installation site visit. The SI focused on the northern portion of PRL 3 originally within the Base boundary.

#### **4.4 PRL 4: FETA – COMPASS ROSE**

From approximately 1995 to 2005, AFFF testing from three fire trucks would occur every Monday at one of three locations: the North FETA, the South FETA, or the Compass Rose FETA. Typically, the FD utilized 3% AFFF. The estimated amount of AFFF released weekly was 3 to 4 gal per testing event; exact discharge quantities are unknown. The Compass Rose FETA is a flat, grass- and dirt-covered area located off the eastern edge of the Base's Compass Rose used for the calibration of aircraft directional control systems. Fire trucks would typically pull up near the eastern edge of the paved area surrounding the Compass Rose and discharge into the grassy area northeast, east, and southeast from the Compass Rose. Relative to the other FETAs, the Compass Rose FETA site was used much more frequently than the other two FETAs and would likely have the greatest amount of AFFF released to the ground surface. AFFF released during testing would likely have infiltrated permeable surface soils in this area.

#### **4.5 PRL 5: BUILDING 573 – FORMER VEHICLE MAINTENANCE BUILDING**

Small discharges of AFFF mixture have occurred at this building after repairs were completed on fire trucks and as they were tested on an as-needed basis approximately one to two times per year. These small amounts of AFFF would have been discharged into the grassy area on the northern side of Building 573, north of the vehicle bays, and also possibly to the west and south over the fence depending on wind or weather conditions at the time.

#### **4.6 PRL 6: BUILDING 216 – CURRENT AND FORMER FIRE STATION**

This new fire station was built in 1995 after the old fire station was demolished. At the time of the August 2015 PA site visit, AFFF storage at the fire station included the following:

- 1,014 gal (Chemguard) of AFFF are currently in inventory, including trucks and storage. The maximum capacity of trucks and storage is approximately 1,300 gal.
- Up to 500 gal of AFFF are stored on the 2<sup>nd</sup> floor in two 250-gal poly storage tanks.
- Five 5-gal totes are utilized to fill the 2<sup>nd</sup> floor AFFF poly storage tanks.
- Six firefighting trucks with foam-holding tanks (approximately 800 gal AFFF).
- One support vehicle with a 25-gal AFFF capacity (typically five 5-gal totes).

Firefighting trucks currently pull up alongside the southern end of the fire station building where AFFF from the 2<sup>nd</sup> floor storage totes is gravity-fed into their holding tanks. This method of filling the trucks has

been ongoing for approximately 1 year. Prior to that, the trucks were manually filled with AFFF from 5-gal totes inside the fire station.

Interviews with FD personnel indicate one release of AFFF at Building 216 in 2000. Approximately 5 gal of AFFF entered the sanitary sewer system via the building's floor drains and then into the city's wastewater treatment plant, where foaming was observed and reported.

Monthly AFFF foam testing of one fire truck is performed in the grassy area north of Building 216, in the location of the former Building 216.

The former fire station (Former Building 216) was in operation from approximately the mid-1940s to 1995, when it was demolished. The site is now a vacant grassy area located immediately north of the current fire station building. Per FD personnel, since the beginning of 2015, monthly foam testing is conducted with one truck within the grassy area; discharge quantities are unknown but reported to be small amounts. No additional releases were reported in this area of the former fire station.

#### **4.7 PRLs 7 AND 8: NORTH AND SOUTH OUTFALLS**

Although no records or Base personnel accounts of AFFF releases at the North and South Outfalls exist, documented use/storage of AFFF exists within the drainage basin (including PRLs 1, 3, 4, 5, and 6), which may have discharged to the South Outfall. During the Installation site visit, it was determined that none of the PRLs except FETA – North (located outside the Base boundary) would likely contribute surface water runoff to the North Outfall (PRL 7). The North Outfall is located at the northern end of the Klamath Falls Airport. The South Outfall is located in the west-central portion of the Klamath Falls Airport, south of the main portions of the Base boundary. These outfalls may have received any potential releases of AFFF that would have entered the drainage ditches and canals located to the east and west of the Base.

The North Outfall (PRL 7) was not included in the SI WP because the PRL is outside the Base boundary. However, ANG requested sediment and surface water samples (if available) be collected from this PRL during the SI. The field investigation at PRL 7 will be documented as a field change in the SI Report (Section 5.1.2).

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## 5.0 SITE INVESTIGATION FIELD PROGRAM

This section summarizes the SI field activities, including soil, groundwater, surface water, and sediment sampling, at Kingsley Field ANGB. Analytical results for each PRL are presented and identify the presence or absence of PFOS/PFOA and results for PFOS, PFOA, and PFBS that exceed the screening criteria shown in Table 2 and described in Section 1.2 of this SI Report.

SI field activities were conducted between April 30 and May 7, 2018. All sampling and analytical activities were conducted in accordance with the procedures specified in the SI WP (Leidos 2018), except as noted in Section 5.1.2. Boring logs and monitoring well construction logs are provided in Appendix A and groundwater sampling logs are provided in Appendix B. The groundwater monitoring well survey report is included in Appendix C. The data validation report is provided in Appendix D. The full data package is provided in Appendix E.

### 5.1 GENERAL APPROACH

#### 5.1.1 Field Sampling

SI field activities included the following:

- Surface and subsurface soil sampling;
- Water level measurements at two existing monitoring wells and five newly installed permanent monitoring wells to confirm local groundwater flow at Kingsley Field ANGB;
- Installation and sampling of groundwater from five new monitoring wells and two existing monitoring wells located downgradient from the PRLs and/or at the Installation boundary;
- Surface water and sediment sampling (if available); and
- Global positioning system survey of soil borings, sediment, and surface water locations (the horizontal location and elevation of all newly installed wells were surveyed by a professional licensed surveyor).

Sample locations were based on known historical or potential releases, and site conditions as observed during the PA. Table 3 summarizes the SI sampling activities at Kingsley Field ANGB. Figure 2 shows an overview of the Kingsley Field ANGB SI sample locations. Prior to intrusive activities, an underground utility locator marked and cleared all boring locations.

A total of 17 soil borings were advanced. Borings were advanced in grassy areas using direct push technology (DPT) drilling to first water or refusal, whichever was encountered first (maximum depth was 10 ft BGS). All soil borings were logged for soil lithology. Boring logs are included in Appendix A. Two grab soil samples were collected from each boring—one from within the 0- to 2-ft BGS interval and one from within the 2-ft interval immediately above the water table.

All soil samples were screened by a photoionization detector as a health and safety precaution due to the potential presence of volatile organic compounds (VOCs). Following collection of soil samples, boreholes not co-located with monitoring wells were abandoned by backfilling with hydrated bentonite chips up to approximately 4 to 6 in. from the surface and capped with surrounding soil.

In addition to the two existing wells on Kingsley Field ANGB, five permanent monitoring wells were installed and water levels measured to determine groundwater flow direction. The new wells were developed and seven monitoring wells sampled following ANG guidance, as prescribed in the SI WP (Leidos 2018).

One surface water sample was collected from a storm sewer manhole located within the Base boundary, near the Hangar 333 Release Area (PRL 1). This manhole discharges stormwater to the South Outfall (PRL 8) and is the last available surface water sample location within the Base boundary, as described in the SI WP (Leidos 2018). No sediment was present in the manhole associated with the South Outfall. A sediment sample was collected from a shallow ditch located outside ANG property, near the northern boundary of the Airport north of the North FETA (PRL 2), to evaluate surface water and sediment associated with the North Outfall (PRL 7) leaving the Base and Airport. No surface water was present in the ditch associated with the North Outfall.

Additional details on the field activities for each PRL are provided in Sections 5.3 through 5.10.

### **5.1.2 Deviations from the Work Plan**

The following minor deviations were observed during field activities:

- No sediment was observed in the accessible on-Base manhole for the South Outfall (PRL 8). Therefore, no sediment samples were collected at this PRL.
- Due to an oversight, the field reagent blank was not collected per the Uniform Federal Policy Quality Assurance Project Plan (UFP-QAPP) (Leidos 2018); note, this field quality control (QC) blank is not required under the Quality Systems Manual (QSM) Version 5.1 (DoD 2017) and does not impact the validation qualifiers assigned to the sample data and NFA is required.
- A groundwater sample from an existing well (MW-10-11-PRL04) was not collected because the well could not be located during the SI. As a result, the proposed new well (MW-KLA04-01) was relocated closer to the PRL and a groundwater sample was collected for the evaluation of PRL 4.
- At the request of ANG, a few changes were made to the sampling plan after the SI WP was approved by the Oregon Department of Environmental Quality. The changes were as follows:
  - PRL 2 was not included in the SI WP (Leidos 2018) because it is located off Base. However, to address ANG's request to collect samples from PRL 2, Leidos collected soil samples from three soil borings at PRL 2 (which included soil samples from a soil boring relocated from PRL 6 to PRL 2) and a groundwater sample from a monitoring well relocated from PRL 1 (MW-KLA01-02) to PRL 2 (MW-KLA02-01).
  - The proposed well MW-KLA01-01 at PRL 1 was moved slightly to the southeast to serve the dual purpose of a downgradient well and boundary well.
  - PRL 7 was not included in the SI WP (Leidos 2018) because it is located off Base. However to address ANG's request to collect samples from PRL 7, Leidos collected a sediment sample from a drainage ditch associated with the North Outfall (PRL 7). Surface water was not available at this PRL, and therefore, a surface water sample could not be collected.

### **5.1.3 Data Analysis**

#### **5.1.3.1 Laboratory**

Environmental samples were submitted to TestAmerica Analytical Laboratories, Inc. (TestAmerica), in West Sacramento, California. TestAmerica is accredited under the DoD Environmental Laboratory Accreditation Program and maintains a National Environmental Laboratory Accreditation Program certification.

#### **5.1.3.2 Screening criteria**

Analytical data for three of the 2012 EPA UCMR3 COCs (PFOS, PFOA, PFBS) were compared to appropriate HA or risk-based screening criteria (Section 1.2 and Table 2) to determine whether further investigation is required. No HA or RSL criteria currently exist for PFHpA, PFHxS, or PFNA.

#### **5.1.3.3 Data validation**

A UFP-QAPP was developed for this project as Appendix A of the SI WP (Leidos 2018). The UFP-QAPP was written to apply to all 15 Installations included in the scope of the Phase III SI contract. Specifics on the number and type of samples to be collected in characterizing the site, and the number and type of quality assurance (QA)/QC samples to be used to evaluate the quality of the data obtained, were included in the SI WP (Leidos 2018). Soil and sediment were collected in one 4-oz. high-density polyethylene (HDPE) container with an HDPE cap. Groundwater and surface water samples were collected in two 250-mL HDPE containers with HDPE caps. The following samples were collected during the Kingsley Field ANGB SI:

- Thirty-four soil samples,
- One sediment sample,
- Seven groundwater samples,
- One surface water sample,
- Five soil field duplicate samples,
- One sediment field duplicate,
- One groundwater field duplicate,
- Five equipment rinsates, and
- One field blank.

The results of the data quality evaluation of the investigative field sample data indicate that the overall quality of the data is acceptable to confirm the presence or absence of contamination. Through data verification, validation, and review, the analytical information has been qualified as appropriate. Data are considered usable if they are unqualified or qualified as estimated. For groundwater and surface water, 100% of the data were considered usable. For soil and sediment, 100% of the data were considered usable. The overall quality of the data meets or exceeds the established project objectives.

#### ***Quality Control***

Seven field duplicate samples were collected, including five for soil, one for sediment, and one for groundwater, and analyzed for PFOS/PFOA. Field duplicate analytical results were generally consistent with their associated parent samples, indicating no significant issues with field and laboratory precision. The groundwater duplicate pair and four soil pairs had relative percent difference (RPD) values below the UFP-QAPP guidelines of 50% for all detected analytes. Two analytes in one soil field duplicate pair had RPD values above the guideline (64% for PFNA and 68% for PFOA in KLA05-SB1-01/01D).

Two analytes in the sediment field duplicate pair had RPD values above guidelines (81% for PFHxS and 81% for PFOS in KLA07-SD1-01/01D), although all parent results were non-detections. Data are not qualified on the basis of field duplicate results alone since the *Contract Laboratory Program National Functional Guidelines for the Organic Data Review* (EPA 1999), and the DoD QSM Version 5.1 (DoD 2017) do not include control limits for field duplicate RPD values. Five equipment rinsate samples were collected, including four associated with soil samples and one associated with groundwater. In equipment blank samples ER-01, ER-02, ER-04, and ER-05, PFOS/PFOA was detected, although at low estimated concentrations that did not result in additional field sample qualifications. Field blank sample FB-01 was collected from deionized water and analyzed for PFOS/PFOA. In field blank FB-01, PFOS/PFOA was detected at a low estimated concentration that resulted in one sample qualified as non-detect (U). For these reasons, SI data quality was not impacted as a result of PFOS/PFOA detections in the field blanks.

### **PFOS/PFOA**

Some PFOS/PFOA compounds were qualified as estimated due to minor QC outliers. Ten PFOS/PFOA results were qualified as estimated (J) due to surrogate recovery results outside control limits. Seventy PFOS/PFOA results were qualified as estimated (J/UJ) due to internal standard outliers. PFHpA and PFOA in KLA06-SB2-01 and PFOS in sample KLA02-SB1-01 were qualified as estimated (J) due to matrix spike/matrix spike duplicate (MS/MSD) recovery outliers. Five PFHxS results were qualified as non-detect due to continuing calibration blank contamination. Twelve PFOS/PFOA results were qualified as estimated due to results reported above the calibration range after maximum dilution. No other QC outliers resulted in qualification of the data during the data validation process.

Except as noted above, data produced for this investigation demonstrate that it can withstand scientific scrutiny; are appropriate for its intended purpose; are technically defensible; and are of known and acceptable sensitivity, precision, and accuracy. Data integrity has been documented through proper implementation of QA and QC measures. The environmental information presented has an established confidence that allows utilization for the project objectives and provides data for future needs.

## **5.2 INVESTIGATION-DERIVED WASTE**

Investigation-derived waste (IDW) was managed in compliance with the SI WP (Leidos 2018). Five drums of non-hazardous soil IDW and six drums of non-hazardous water IDW were transported to a designated drum staging area located onsite. Two IDW samples (one aqueous and one solid) were collected for this event, and the results in conjunction with the historical site process knowledge were used for characterization of generated IDW. The IDW has been characterized as non-hazardous waste and the IDW drums have been removed from the Base for offsite disposal at a permitted facility.

## **5.3 PRL 1: HANGAR 333 – FUEL CELL MAINTENANCE DOCK**

A total of three soil borings and one monitoring well were installed and sampled at PRL 1 (Table 3), as described below.

### **5.3.1 Sampling Activities**

#### **5.3.1.1 Soil sampling**

A total of three soil borings were installed on May 2, 2018, in the PRL 1 area. KLA01-SB1 was installed in a grassy area north of the concrete ramp on the eastern portion of Hangar 333 (Figure 3). KLA01-SB2 was installed in a grassy area east of the concrete ramp on the eastern portion of Hangar 333, near the taxiway (Figure 3). KLA01-SB3 was installed in a grassy area east of Hangar 333, across the taxiway where AFFF removed from the Building 333 spill was reportedly discharged (Figure 3). The soil borings were advanced using a DPT drill rig. Borings were advanced to total depth of 10 ft BGS. Soil lithology



descriptions were logged on the soil boring logs (Appendix A). A total of six soil samples were collected and analyzed for PFOS/PFOA compounds.

#### **5.3.1.2 Groundwater**

MW-KLA01-01 was drilled in the grassy area southeast of the Hangar 333 Release Area, downgradient from the PRL, near the Installation boundary, and in the general groundwater flow direction on May 1, 2018 (Figure 8). Well construction details are shown in Table 4. The soil lithology descriptions and well construction diagram are included in Appendix A.

MW-KLA01-01 was developed on May 5, 2018, and sampled on May 6, 2018. Water levels are shown in Table 5, and water quality parameters are shown in Table 6. Groundwater sample MW-KLA01-01-01 was collected and analyzed for PFOS/PFOA compounds. The Groundwater Micro Purge Sheet and Groundwater Micro Purge Log are included in Appendix B.

Well MW-KLA01-01 was surveyed by a licensed surveyor, and the well survey report is included in Appendix C.

### **5.3.2 Analytical Results**

#### **5.3.2.1 Soil**

Six soil samples were collected and analyzed from PRL 1, as described in Section 5.3.1. All surface soil samples showed detections above the laboratory detection limit for PFOS, PFOA, PFBS, and PFHxS, except PFHxS was not detected in KLA01-SB3-01. PFNA was not detected in all three samples, and PFHpA was detected in KLA01-SB1-01 but not detected in KLA01-SB2-01 and KLA01-SB3-01. No screening criteria exist for PFHxS, PFHpA, and PFNA. None of the concentrations of PFOS, PFOA, or PFBS exceeded the soil screening criteria.

In the subsurface soil samples KLA01-SB1-02 and KLA01-SB2-02, PFOS, PFOA, PFBS, PFHpA, PFHxS were detected above the laboratory detection limit, and PFNA was not detected. PFOS and PFHxS were only detected in sample KLA01-SB3-02. All other PFOS/PFOA results were non-detect in KLA01-SB3-02. No screening criteria exist for PFHxS, PFHpA, and PFNA. None of the concentrations of PFOS, PFOA, or PFBS exceeded the soil screening criteria. Soil analytical results for PRL 1 are presented in Table 7 and shown in Figure 3.

#### **5.3.2.2 Groundwater**

One groundwater sample was collected from MW-KLA01-01 and analyzed as described in Section 5.3.1. All six PFOS/PFOA compounds were detected above laboratory detection limits, and PFOS exceeded the 70-ng/L EPA drinking water HA (EPA 2016a) at a concentration of 500 J ng/L. The combined PFOS/PFOA concentration at this location is 520 ng/L, exceeding the EPA HA. PFOA was below the EPA HA and PFBS was below the EPA RSL. No screening criteria exist for PFHxS, PFHpA, and PFNA. Groundwater analytical results for PRL 1 are presented in Table 8 and shown in Figure 8.

## **5.4 PRL 2: FETA – NORTH**

A total of three soil borings and one monitoring well were installed and sampled at PRL 2 (Table 3), as described below.



## **5.4.1 Sampling Activities**

### **5.4.1.1 Soil**

A total of three soil borings were advanced on May 4, 2018, in the PRL 2 area. KLA02-SB1 was advanced in a grassy area in the northwestern portion of the PRL (Figure 4). KLA02-SB2 was advanced in a grassy area in the eastern portion of the PRL (Figure 4). KLA02-SB3 was advanced in a grassy area in the southwestern portion of the PRL (Figure 4). The soil borings were advanced using a DPT drill rig. Borings were advanced to total depths ranging from 7.5 ft BGS (KLA02-SB2) to 10 ft BGS (KLA02-SB3). Soil lithology descriptions were logged on the soil boring logs (Appendix A). A total of eight soil samples (including two field duplicates) were collected and analyzed for PFOS/PFOA compounds.

### **5.4.1.2 Groundwater**

MW-KLA02-01 was drilled in the grassy area southeast and downgradient from the PRL, and in the general groundwater flow direction, on May 4, 2018 (Figure 8). Well construction details are shown in Table 4. The soil lithology descriptions and well construction diagram are included in Appendix A.

MW-KLA02-01 was developed on May 5, 2018, and sampled on May 6, 2018. Water levels are shown in Table 5, and water quality parameters are shown in Table 6. Groundwater sample MW-KLA02-01-01 was collected and analyzed for PFOS/PFOA compounds. The Groundwater Micro Purge Sheet and Groundwater Micro Purge Log are included in Appendix B.

Well MW-KLA02-01 was surveyed by a licensed surveyor, and the well survey report is included in Appendix C.

## **5.4.2 Analytical Results**

### **5.4.2.1 Soil**

Eight soil samples from KLA02-SB1, KLA02-SB2, and KLA02-SB3 were collected and analyzed as described in Section 5.4.1. All six PFOS/PFOA compounds were detected above laboratory detection limits in the surface soil samples with the exception of PFNA in KLA02-SB1-01. No screening criteria exist for PFHxS, PFHpA, and PFNA. None of the concentrations of PFOS, PFOA, or PFBS exceeded the soil screening criteria.

In the subsurface soil samples, all six PFOS/PFOA compounds were detected above laboratory detection limits with the exception of PFNA in KLA02-SB1-01. No screening criteria exist for PFHxS, PFHpA, and PFNA. None of the concentrations of PFOS, PFOA, or PFBS exceeded the soil screening criteria. PRL 2 soil analytical results are presented in Table 7 and shown in Figure 4.

### **5.4.2.2 Groundwater**

One groundwater sample was collected from MW-KLA02-01 and analyzed as described in Section 5.4.1. All six PFOS/PFOA compounds were detected above laboratory detection limits, and PFOS and PFOA exceeded the 70-ng/L EPA drinking water HA (EPA 2016a and 2016b) at elevated concentrations of 380,000 J and 21,000 J ng/L, respectively. The combined PFOS/PFOA concentration at this location is 401,000 ng/L, significantly exceeding the EPA HA. PFBS was below the EPA RSL. No screening criteria exist for PFHxS, PFHpA, and PFNA. Groundwater analytical results for PRL 2 are presented in Table 8 and shown in Figure 8.

## **5.5 PRL 3: FETA – SOUTH**

A total of three soil borings and one monitoring well were installed and sampled at PRL 3 (Table 3), as described below.

### **5.5.1 Sampling Activities**

#### **5.5.1.1 Soil**

A total of three soil borings were installed on May 2, 2018, in the PRL 3 area. KLA03-SB1 and KLA03-SB3 were advanced in a grassy area in the northwestern portion of the PRL, within the Base boundary (Figure 3). KLA03-SB2 was installed in a grassy area in the northeastern portion of the PRL, within the Base boundary (Figure 3). The soil borings were advanced using a DPT drill rig. Borings were advanced to a total depth of 10 ft BGS. Soil lithology descriptions were logged on the soil boring logs (Appendix A). A total of seven soil samples (including one field duplicate) were collected and analyzed for PFOS/PFOA compounds.

#### **5.5.1.2 Groundwater**

MW-KLA03-01 was drilled in the grassy area in the northeastern portion of the PRL (within the Base boundary) and in the general groundwater flow direction on May 2, 2018 (Figure 8). Well construction details are shown in Table 4. The soil lithology descriptions and well construction diagram are included in Appendix A.

MW-KLA03-01 was developed on May 5, 2018, and sampled on May 6, 2018. Water levels are shown in Table 5, and water quality parameters are shown in Table 6. Groundwater sample MW-KLA03-01-01 was collected and analyzed for PFOS/PFOA compounds. The Groundwater Micro Purge Sheet and Groundwater Micro Purge Log are included in Appendix B.

Well MW-KLA03-01 was surveyed by a licensed surveyor, and the well survey report is included in Appendix C.

### **5.5.2 Analytical Results**

#### **5.5.2.1 Soil**

Seven soil samples from KLA03-SB1, KLA03-SB2, and KLA03-SB3 were collected and analyzed as described in Section 5.5.1. PFOS, PFHxS, and PFBS were detected above laboratory detection limits in surface soil samples KLA03-SB1-01, KLA03-SB2-01, and KLA03-SB3-01. PFOA was detected in KLA03-SB2-01 and KLA03-SB3-01, and PFHpA was only detected in KLA03-SB3-01. PFNA was not detected in all three samples. No screening criteria exist for PFHxS, PFHpA, and PFNA. None of the concentrations of PFOS, PFOA, or PFBS exceeded the soil screening criteria.

In the subsurface soil samples, PFOS, PFOA, PFBS, and PFHxS were detected in KLA03-SB1-01, KLA03-SB2-01, and KLA03-SB3-01. PFHpA was only detected in KLA03-SB3-01. PFNA was not detected in all three samples. No screening criteria exist for PFHxS, PFHpA, and PFNA. None of the concentrations of PFOS, PFOA, or PFBS exceeded the soil screening criteria. PRL 3 soil analytical results are presented in Table 7 and shown in Figure 3.

### **5.5.2.2 Groundwater**

One groundwater sample was collected from MW-KLA03-01 and analyzed as described in Section 5.5.1. All six PFOS/PFOA compounds were detected above laboratory detection limits, and PFOS and PFOA exceeded the 70-ng/L EPA drinking water HA (EPA 2016a and 2016b) at concentrations of 6,100 and 290 ng/L. The combined PFOS/PFOA concentration at this location is 6,390 ng/L, exceeding the EPA HA. PFBS was detected below the EPA RSL. No screening criteria exist for PFNA, PFHxS, and PFHpA. Groundwater analytical results for PRL 3 are presented in Table 8 and shown in Figure 8.

## **5.6 PRL 4: FETA – COMPASS ROSE**

A total of three soil borings and one monitoring well were installed and sampled at PRL 4 (Table 3), as described below.

### **5.6.1 Sampling Activities**

#### **5.6.1.1 Soil**

A total of three soil borings were installed on May 5, 2018, in the PRL 4 area. KLA04-SB1 was installed in a grassy area immediately north of the Compass Rose (Figure 5). KLA04-SB2 was installed in a grassy area immediately east of the Compass Rose (Figure 5). KLA04-SB3 was installed in a grassy area immediately southeast of the Compass Rose (Figure 5). The soil borings were advanced using a DPT drill rig. Borings were advanced to total depth of 10 ft BGS. Soil lithology descriptions were logged on the soil boring logs (Appendix A). A total of six soil samples were collected and analyzed for PFOS/PFOA compounds.

#### **5.6.1.2 Groundwater**

The existing well (MW-10-11-PRL04) was not located during the SI, and no groundwater sample was collected. Therefore, the new well (MW-KLA04-01) was relocated west and closer to the PRL. MW-KLA04-01 was drilled in the grassy area southeast and downgradient from the PRL, and in the general groundwater flow direction, on May 3, 2018 (Figure 8). Well construction details are shown in Table 4. The soil lithology descriptions and well construction diagram are included in Appendix A.

MW-KLA04-01 was developed on May 5, 2018, and sampled on May 6, 2018. Water levels are shown in Table 5, and water quality parameters are shown in Table 6. Groundwater sample MW-KLA04-01-01 was collected and analyzed for PFOS/PFOA compounds. The Groundwater Micro Purge Sheet and Groundwater Micro Purge Log are included in Appendix B.

Well MW-KLA04-01 was surveyed by a licensed surveyor, and the well survey report is included in Appendix C.

### **5.6.2 Analytical Results**

#### **5.6.2.1 Soil**

Six soil samples from KLA04-SB1, KLA04-SB2, and KLA04-SB3 were collected and analyzed as described in Section 5.6.1. All six PFOS/PFOA compounds were detected above laboratory detection limits in surface soil samples KLA04-SB1-01, KLA04-SB2-01, and KLA04-SB3-01. The PFOS concentrations in surface soil samples KLA04-SB1, KLA04-SB2, and KLA04-SB3 were 2,200 J, 6,600 J, and 4,500 J µg/kg, respectively, and exceeded the EPA RSL. No screening criteria exist for PFHxS, PFHpA, and PFNA. None of the concentrations of PFOA or PFBS exceeded the soil screening criteria.

In the subsurface soil samples, all six PFOS/PFOA compounds were detected above laboratory detection limits. The PFOS concentrations in subsurface soil samples KLA04-SB1, KLA04-SB2, and KLA04-SB3 were 3,600 J, 4,800 J, and 3,800 J  $\mu\text{g/kg}$ , respectively, and exceeded the EPA RSL. No screening criteria exist for PFHxS, PFHpA, and PFNA. None of the concentrations of PFOA or PFBS exceeded the soil screening criteria. PRL 4 soil analytical results are presented in Table 7 and shown in Figure 5.

#### **5.6.2.2 Groundwater**

One groundwater sample was collected from MW-KLA04-01 and analyzed as described in Section 5.6.1. Five of the six PFOS/PFOA compounds, with the exception of PFNA, were detected above laboratory detection limits, and PFOS exceeded the 70-ng/L EPA drinking water HA (EPA 2016a) at a concentration of 100 ng/L. The combined PFOS/PFOA concentration at this location is 141 ng/L, exceeding the EPA HA. PFOS was below the EPA HA and PFBS was below the EPA RSL. No screening criteria exist for PFHxS, PFHpA, and PFNA. Groundwater analytical results for PRL 4 are presented in Table 8 and shown in Figure 8.

### **5.7 PRL 5: BUILDING 573 – FORMER VEHICLE MAINTENANCE BUILDING**

A total of three soil borings were installed and sampled, and two existing monitoring wells were sampled at PRL 5 (Table 3), as described below.

#### **5.7.1 Sampling Activities**

##### **5.7.1.1 Soil**

A total of three soil borings were installed on May 5, 2018, in the PRL 5 area. KLA05-SB1 was installed in a grassy area north of Building 573 (Figure 6). KLA05-SB2 was installed in a grassy area west of Building 573 (Figure 6). KLA05-SB3 was installed in a grassy area south of Building 573 (Figure 6). The soil borings were advanced using a DPT drill rig. Borings were advanced to total depths ranging from 7.5 ft BGS (KLA05-SB1, KLA05-SB2) to 8 ft BGS (KLA05-SB3). Soil lithology descriptions were logged on the soil boring logs (Appendix A). A total of seven soil samples (including one field duplicate) were collected and analyzed for PFOS/PFOA compounds.

##### **5.7.1.2 Groundwater**

Groundwater samples were collected from two existing wells (MW-572-02-PRL05, MW-573-03-PRL05). MW-572-02-PRL05 is located in the southeastern portion of the parking lot, near the Base boundary, and in the general direction of groundwater flow. MW-573-03-PRL05 is located just south of Building 573 and in the general direction of groundwater flow.

MW-572-02-PRL05 and MW-573-03-PRL05 were purged and sampled on May 6, 2018. Water levels are shown in Table 5, and water quality parameters are shown in Table 6. Groundwater samples MW-572-02-PRL05-01 (and one field duplicate) and MW-573-03-PRL05-01 were collected and analyzed for PFOS/PFOA compounds. The Groundwater Micro Purge Sheet and Groundwater Micro Purge Log are included in Appendix B.

#### **5.7.2 Analytical Results**

##### **5.7.2.1 Soil**

Seven soil samples from KLA05-SB1, KLA05-SB2, and KLA05-SB3 were collected and analyzed as described in Section 5.7.1. All six PFOS/PFOA compounds were detected above laboratory detection

limits in surface soil samples KLA05-SB1-01, KLA05-SB2-01, and KLA05-SB3-01. The PFOS concentration in surface soil sample KLA05-SB3-01 was 14,000 J  $\mu\text{g/kg}$  and exceeded the EPA RSL. No screening criteria exist for PFHxS, PFHpA, and PFNA. None of the concentrations of PFOA or PFBS exceeded the soil screening criteria.

In the subsurface soil samples, all six PFOS/PFOA compounds were detected in KLA05-SB2-02 and KLA05-SB3-02. PFOS, PFOA, PFHxS, and PFBS were detected in KLA05-SB1-02; PFNA and PFHpA were not detected. No screening criteria exist for PFHxS, PFHpA, and PFNA. None of the concentrations of PFOS, PFOA, or PFBS exceeded the soil screening criteria. PRL 5 soil analytical results are presented in Table 7 and shown in Figure 6.

### **5.7.2.2 Groundwater**

A total of three groundwater samples were collected – one from each of the wells (MW-572-02-PRL05, MW-573-03-PRL05) and a field duplicate. The groundwater samples were analyzed as described in Section 5.7.1. All six PFOS/PFOA compounds were detected above laboratory detection limits in both wells. PFOS and PFOA exceeded the 70-ng/L EPA drinking water HA (EPA 2016a and EPA 2016b) in well MW-573-03-PRL05. The PFOS concentration in MW-572-02-PRL05 (primary and duplicate samples) exceeded the EPA HA. The combined PFOS/PFOA concentrations at MW-572-02-PRL05 and MW-573-03-PRL05 are 1,156 ng/L (1,257 ng/L duplicate) and 69,700 ng/L, respectively. PFBS concentrations were below the EPA RSL. No screening criteria exist for PFHxS, PFHpA, and PFNA. Groundwater analytical results for PRL 5 are presented in Table 8 and shown in Figure 8.

## **5.8 PRL 6: BUILDING 216 – CURRENT AND FORMER FIRE STATION**

A total of two soil borings and one monitoring well were installed and sampled at PRL 6 (Table 3), as described below.

### **5.8.1 Sampling Activities**

#### **5.8.1.1 Soil**

A total of two soil borings were installed on May 1, 2018, in the PRL 6 area. KLA06-SB1 and KLA06-SB2 were installed in a grassy area north of Building 216 where spray testing occurred (Figure 7). The soil borings were advanced using a DPT drill rig. Borings were advanced to total depth 10 ft BGS. Soil lithology descriptions were logged on the soil boring logs (Appendix A). A total of five soil samples (including one field duplicate) were collected and analyzed for PFOS/PFOA compounds.

#### **5.8.1.2 Groundwater**

MW-KLA06-01 was drilled in the grassy area north of Building 216 where spray testing occurred, east of the two soil borings on May 1, 2018 (Figure 6). Well construction details are shown in Table 4. The soil lithology descriptions and well construction diagram are included in Appendix A.

MW-KLA06-01 was developed on May 5, 2018, and sampled on May 6, 2018. Water levels are shown in Table 5, and water quality parameters are shown in Table 6. Groundwater sample MW-KLA06-01-01 was collected and analyzed for PFOS/PFOA compounds. The Groundwater Micro Purge Sheet and Groundwater Micro Purge Log are included in Appendix B.

Well MW-KLA06-01 was surveyed by a licensed surveyor, and the well survey report is included in Appendix C.

## **5.8.2 Analytical Results**

### **5.8.2.1 Soil**

Five soil samples from KLA06-SB1 and KLA06-SB2 were collected and analyzed as described in Section 5.8.1. All six PFOS/PFOA compounds were detected above laboratory detection limits in surface soil samples KLA06-SB1-01 and KLA06-SB2-01. No screening criteria exist for PFHxS, PFHpA, and PFNA. None of the concentrations of PFOS, PFOA, or PFBS exceeded the soil screening criteria.

In the subsurface soil samples KLA06-SB1 and KLA06-SB2, all six PFOS/PFOA compounds were detected above the laboratory detection limits. The PFOS concentration in surface soil sample KLA06-SB2 was 1,600 J  $\mu\text{g/kg}$  and exceeded the EPA RSL. No screening criteria exist for PFNA, PFHxS, and PFHpA. None of the concentrations of PFOA or PFBS exceeded the soil screening criteria. PRL 6 soil analytical results are presented in Table 7 and shown in Figure 7.

### **5.8.2.2 Groundwater**

One groundwater sample was collected from MW-KLA06-01 and analyzed as described in Section 5.8.1. All six PFOS/PFOA compounds were detected above laboratory detection limits in both wells. PFOS and PFOA exceeded the 70-ng/L EPA drinking water HA (EPA 2016a and 2016b) at elevated concentrations of 130,000 J and 14,000 ng/L in MW-KLA06-01. The combined PFOS/PFOA concentration at this location is 144,000 ng/L, significantly exceeding the 70-ng/L EPA drinking water HA (EPA 2016a and 2016b). PFBS was below the EPA RSL. No screening criteria exist for PFHxS, PFHpA, and PFNA. Groundwater analytical results for PRL 6 are presented in Table 8 and shown in Figure 8.

## **5.9 PRL 7: NORTH OUTFALL**

The North Outfall is located at the northern boundary of the Klamath Falls Airport and likely discharges stormwater from PRL 2. The outfall also receives stormwater from other facilities at the northern portion of the Klamath Falls Airport. A sediment sample was collected from a drainage ditch prior to the North Outfall.

### **5.9.1 Sampling Activities**

#### **5.9.1.1 Sediment**

Sediment sample KLA07-SD1-01 was collected from a dry drainage ditch near the North Outfall on May 6, 2018, in the location shown in Figure 4. The sample was analyzed for PFOS/PFOA compounds.

#### **5.9.1.2 Surface water**

The collection of a surface water sample was attempted in the same location where the sediment sample was collected (Figure 6); however, no water was present in the ditch.

## **5.9.2 Analytical Results**

### **5.9.2.1 Sediment**

Sediment sample KLA07-SD1-01 was collected and analyzed as described in Section 5.9.1. PFOS/PFOA compounds were not detected at concentrations exceeding the laboratory detection limit in the primary sample. However, five of the six PFOS/PFOA compounds with the exception of PFNA were detected at low concentrations in the duplicate sample. The detected concentrations of PFOS, PFOA, and PFBS were



below the screening criteria. No screening criteria exist for PFHxS, PFHpA, and PFNA. PRL 8 sediment analytical results are presented in Table 8 and shown in Figure 4.

## **5.10 PRL PRL 8: SOUTH OUTFALL**

The South Outfall is located in the western-central portion of the Klamath Falls Airport, south of the main portions of the Base boundary, and discharges the majority of the stormwater from Kingsley Field ANGB, including PRLs 1, 3, 4, 5, and 6. The South Outfall is representative of the overall impacts of PFOS/PFOA from the PRLs included in this SI. The outfall also receives stormwater from the Klamath Falls Airport. The last precipitation event was 0.01 in. on April 30, 2018. Surface water sample was collected inside of a storm sewer manhole located within the Installation boundary.

### **5.10.1 Sampling Activities**

#### **5.10.1.1 Surface water**

A surface water sample KLA08-SW1-01 was collected on May 7, 2018, in the location shown in Figure 3. Water quality parameters were measured as shown in Table 6. The samples were analyzed for PFOS/PFOA compounds. The Sample Collection Log is included in Appendix B.

#### **5.10.1.2 Sediment**

The collection of a sediment sample was attempted in the same location where the surface water sample was collected (Figure 3); however, no sediment was present in the manhole.

### **5.10.2 Analytical Results**

#### **5.10.2.1 Surface water**

Surface water sample KLA08-SW1-01 was collected and analyzed as described in Section 5.10.1. Five of the six PFOS/PFOA compounds were detected at concentrations exceeding the laboratory detection limit with the exception of PFBS in KLA08-SW1-01. No screening criteria exist for PFHxS, PFHpA, and PFNA. None of the concentrations of PFOS or PFOA exceeded the drinking water screening criteria. PRL 8 surface water analytical results are presented in Table 8 and shown in Figure 3.

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

### 6.1 CONCLUSIONS

This section presents the SI conclusions and recommendations for each PRL. The recommended DQOs are based on data collected by Leidos during this SI and an evaluation of the analytical results compared to applicable screening criteria.

#### 6.1.1 PRL 1: Hangar 333 – Fuel Cell Maintenance Dock

Although PFOS/PFOA compounds were detected in PRL 1 soil samples, evaluation of soil analytical data compared to soil screening criteria indicates there are no EPA RSL exceedances for PFBS and no calculated residential risk-based screening level exceedances for PFOS or PFOA for soil in PRL 1.

Evaluation of groundwater data compared to screening criteria indicates an exceedance of the EPA HA (70 ng/L) in MW-KLA01-01 for PFOS and PFOA (combined), with a result of 520 ng/L.

Based on the SI results, the following DQOs are recommended for PRL 1:

- Additional surface and subsurface soil samples to determine if a previously undetected source area exists that is contributing to the groundwater exceedances; and
- Additional investigation to determine the nature and extent of PFOS/PFOA in groundwater (both laterally and vertically), through sampling of additional new monitoring wells located both upgradient of and downgradient from PRL 1.

#### 6.1.2 PRL 2: FETA – North

Although PFOS/PFOA compounds were detected in PRL 2 soil samples, evaluation of soil analytical data compared to soil screening criteria indicates there are no EPA RSL exceedances for PFBS and no calculated residential risk-based screening level exceedances for PFOS or PFOA for soil in PRL 2.

Evaluation of groundwater data compared to screening criteria indicate exceedances of the EPA HA (70 ng/L) in MW-KLA02-01 for PFOS, PFOA, and PFOS and PFOA (combined), with results of 380,000, 21,000, and 401,000 ng/L. MW-KLA02-01 had the highest reported concentration of PFOS and PFOA in groundwater or surface water for this SI.

Based on the SI results, the following DQOs are recommended for PRL 2:

- Additional surface and subsurface soil samples to determine if a previously undetected source area exists that is contributing to the groundwater exceedances; and
- Additional investigation to determine the nature and extent of PFOS/PFOA in groundwater (both laterally and vertically), through sampling of additional new monitoring wells located both upgradient of and downgradient from PRL 2 (which is located off Base).

#### 6.1.3 PRL 3: FETA – South

Although PFOS/PFOA compounds were detected in PRL 3 soil samples, evaluation of soil analytical data compared to soil screening criteria indicates there are no EPA RSL exceedances for PFBS and no calculated residential risk-based screening level exceedances for PFOS or PFOA for soil in PRL 3.



Evaluation of groundwater data compared to screening criteria indicates an exceedance of the EPA HA (70 ng/L) in MW-KLA03-01 for PFOS and PFOA (combined), with a result of 6,390 ng/L.

Based on the SI results, the following DQOs are recommended for PRL 3:

- Additional surface and subsurface soil samples to determine if a previously undetected source area exists that is contributing to the groundwater exceedances; and
- Additional investigation to determine the nature and extent of PFOS/PFOA in groundwater (both laterally and vertically), through sampling of additional new monitoring wells located both upgradient of and downgradient from PRL 3.

#### **6.1.4 PRL 4: FETA – Compass Rose**

Although PFOS/PFOA compounds were detected in PRL 4 soil samples, evaluation of soil analytical data compared to soil screening criteria indicates there are no EPA RSL exceedances for PFBS and no calculated residential risk-based screening level exceedances for PFOA. However, PFOS concentrations in both surface and subsurface soil exceeded the screening criteria at every soil boring in PRL 4. The PFOS concentrations in surface soil samples ranged from 2,200 J to 6,600 J µg/kg and exceeded the screening level (1,260 µg/kg). The PFOS concentrations in subsurface soil samples ranged from 3,600 J to 4,800 J µg/kg and exceeded the screening level (1,260 µg/kg).

Groundwater results for the downgradient well MW-KLA04-01 indicated all PFOS/PFOA compounds were detected, except PFNA. The results also indicated EPA HA exceedances for PFOS, with a result of 100 ng/L, and PFOS and PFOA (combined) (141 ng/L), and no EPA RSL exceedances for PFBS.

Based on the SI results, the following DQOs are recommended for PRL 4:

- Additional surface and subsurface soil samples to determine the extent of the elevated PFOS concentrations observed in all three soil borings and to determine if a previously undetected source area exists that is contributing to the groundwater exceedances; and
- Additional investigation to determine the nature and extent of PFOS/PFOA in groundwater (both laterally and vertically), through sampling of additional monitoring wells located both upgradient of and downgradient from PRL 4.

#### **6.1.5 PRL 5: Building 573 – Former Vehicle Maintenance Building**

Although PFOS/PFOA compounds were detected in PRL 5 soil samples, evaluation of soil analytical data compared to soil screening criteria indicates there are no EPA RSL exceedances for PFBS and calculated residential risk-based screening level exceedances for PFOA, and only one screening level exceedance for PFOS for soil in PRL 5. The PFOS concentration in surface soil sample KLA05-SB3 was 14,000 J µg/kg and exceeded the screening level (1,260 µg/kg). KLA05-SB3 was the highest reported concentration of PFOS in soil for this SI.

Evaluation of groundwater data compared to screening criteria indicates exceedances of the EPA HA (70 ng/L) in MW-572-02-PRL05 and MW-573-03-PRL05 for PFOS and PFOA (combined), with a result of 69,700 and 1,156 ng/L, respectively.

Based on the SI results, the following DQOs are recommended for PRL 5:

- Additional surface and subsurface soil samples to determine the extent of the elevated PFOS concentration observed in KLA05-SB3 and to determine if a previously undetected source area exists that is contributing to the groundwater exceedances; and
- Additional investigation to determine the nature and extent of PFOS/PFOA in groundwater (both laterally and vertically), through sampling of additional new monitoring wells located both upgradient of and downgradient from PRL 5.

#### **6.1.6 PRL 6: Building 216 – Current and Former Fire Station**

Although PFOS/PFOA compounds were detected in PRL 6 soil samples, evaluation of soil analytical data compared to soil screening criteria indicates there are no EPA RSL exceedances for PFBS and no calculated residential risk-based screening level exceedance PFOA, and only one screening level exceedance for PFOS for soil in PRL 6. The PFOS concentration in subsurface soil sample KLA06-SB2 was 1,600 J µg/kg and exceeded the screening level (1,260 µg/kg).

Evaluation of groundwater data compared to screening criteria indicates an exceedance of the EPA HA (70 ng/L) in MW-KLA06-01 for PFOS and PFOA (combined), with a result of 144,000 ng/L. There was no EPA RSL exceedance for PFBS.

Based on the SI results, the following DQOs are recommended for PRL 6:

- Additional surface and subsurface soil samples to determine the extent of the elevated PFOS concentration observed in KLA06-SB2 and to determine if a previously undetected source area exists that is contributing to the groundwater exceedances; and
- Additional investigation to determine the nature and extent of PFOS/PFOA in groundwater (both laterally and vertically), through sampling of additional new monitoring wells located both upgradient of and downgradient from PRL 6.

#### **6.1.7 PRL 7: North Outfall**

PFOS/PFOA compounds were not detected at concentrations above the laboratory detection limit in the primary sediment sample from KLA07-SD1. However, low concentrations above the laboratory detection limit was detected for five of the six PFOS/PFOA compounds in the duplicate sediment sample from this location. No surface water was available in the ditch prior to the North Outfall; therefore, no surface water sample was collected.

The PA indicated that PRL 2 appeared to discharge to the North Outfall. Given the elevated PFOS concentration (401,000 ng/L) in groundwater at PRL 2 and low concentrations of PFOS/PFOA compounds detected in the sediment in the ditch associated with PRL 7, further investigation of the North Outfall is warranted.

Based on the SI results (including PRL 2), the following DQO is recommended for PRL 7:

- Additional investigation to further evaluate the concentrations of PFOS/PFOA in surface water and sediment.

### **6.1.8 PRL 8: South Outfall**

PFOS/PFOA compounds were not detected at concentrations above the laboratory detection limit in the primary surface water sample from KLA08-SW1. However low concentrations above the laboratory detection limit were detected for five of the six PFOS/PFOA compounds in the duplicate surface water sample from this location. No sediment was available in the storm sewer manhole within the Base boundary (north of the South Outfall, near PRLs 1 and 3); therefore, no sediment samples were collected.

The PA indicated that the South Outfall receives stormwater from PRLs 1, 3, 4, 5, and 6. Given the PFOS/PFOA exceedances in groundwater at all five PRLs and soil exceedances in three of the five PRLs, and the low concentrations of PFOS/PFOA detected in the surface water sample from KLA08-SW1, further investigation is warranted at PRL 8.

Based on the SI results, the following DQO is recommended for PRL 8:

- Additional investigation to further evaluate the concentrations of PFOS/PFOA in surface water and sediment.

### **6.1.9 PFOS/PFOA Contamination near Installation Boundary**

Samples from five monitoring wells (MW-KLA01-01, MW-KLA03-01, MW-KLA04-01, MW-KLA06-01, and MW-572-02-PRL05) were used to evaluate the PFOS/PFOA contamination near the Installation boundary. All six PFOS/PFOA compounds were detected in the samples collected from these well locations. The screening results indicate the consistent presence of PFOS and PFOA at concentrations exceeding the 70-ng/L EPA drinking water HA (EPA 2016a and 2016b). Elevated PFOS and PFOA concentrations were observed in the water samples from locations near the northern and southern Installation boundaries (MW-KLA06-01 and MW-KLA03-01, respectively). PFBS concentrations did not exceed the RSL at any of the groundwater sample locations. No screening criteria exist for PFHxS, PFHpA, or PFNA. PFOS/PFOA compounds are likely migrating offsite (Airport property) given their presence and magnitude near the Installation boundary and the groundwater exceedances observed at PRL 2 located north of the Installation boundary.

## **6.2 SUMMARY AND RECOMMENDATIONS**

In summary, additional investigations are recommended for soil and groundwater at PRLs 1, 2, 3, 4, 5, and 6, and surface water/sediment at PRLs 7 and 8. The recommendations are summarized in Table 9 and described briefly below:

- Further investigation at all PRLs is necessary to determine the nature and extent of PFOS/PFOA contamination due to detectable levels at the PRLs.
- Develop an expanded conceptual site model that considers localized groundwater and surface water flow paths to select future sampling locations.
- Complete the delineation of nature and extent of PFAS as part of an Expanded SI or an RI that could consist of:
  - Additional soil and sediment sampling and analysis of an expanded list of PFAS constituents (in addition to the six UCMR3 constituents) to determine if significant source areas related to precursor substances are present. Precursor substances have been demonstrated to oxidize into PFOS and PFOA, and thus could provide a lingering source of these compounds to soil and groundwater.

- An expanded groundwater sampling program (including analysis of an expanded list of PFAS constituents) to complete horizontal and vertical delineation of the PFOS/PFOA impacts. Further groundwater investigation at the Base boundary is recommended due to the presence of PFAS in groundwater above their respective screening criteria.
- The installation and sampling of upgradient and downgradient off-Base monitoring wells to better define the upgradient source of PFOS/PFOA as well as impacts of PFOS/PFOA that have migrated off Base.
- The sampling of upgradient and downgradient off-Base surface water and sediment (including analysis of an expanded list of PFAS constituents) to determine if there is an upgradient source of PFOS/PFOA and better define the nature and extent of PFOS/PFOA in surface water that have migrated off Base.
- Conduct preliminary site-specific risk assessment calculations in order to identify chemicals of potential concern (COPCs) in every medium and establish preliminary remedial goals for screening purposes.

DQOs are proposed based on the results of the SI and are presented in Table 9. In general, additional samples are required at each PRL in order to establish the nature and extent of PFOA/PFOS constituents for each applicable medium and determine if a complete receptor pathway exists. For soil, additional samples are proposed to delineate the nature and extent and to determine if a source area exists, and if so, the vertical and horizontal extent for both the vadose and saturated zones. Additional surface water and sediment samples should be collected at PRLs 7 and 8.

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## 7.0 REFERENCES

- ANG Kingsley Field 2009. 173<sup>rd</sup> Fighter Wing Master Plan. Prepared by the 173<sup>rd</sup> Fighter Wing, Kingsley Field, Oregon.
- ANG (Air National Guard) 2014. *Compliance Restoration Program – Western Region 1, Final Site Investigation Report, 173<sup>rd</sup> Fighter Wing, Oregon Air National Guard, Kingsley Field, Klamath Falls, Oregon*, February.
- BB&E (BB&E, Inc.) 2015. *Perfluorinated Compounds Preliminary Assessment Site Visit Report, Kingsley Field Klamath Falls, Oregon*, Final, December.
- CH2M Hill (CH2M Hill, Inc.) 1981. *Installation Restoration Program Records Search for Kingsley Field, Oregon*, Air Force Engineering and Service Center Directorate of Environmental Planning, Tyndall Air Force Base, Florida.
- City of Klamath Falls 2017. *Homepage of the Water Division*, Available online at: [www.klamathfalls.city/i-want-to/find/city-hall/public-works/water](http://www.klamathfalls.city/i-want-to/find/city-hall/public-works/water).
- DoD (U.S. Department of Defense) 2017. *U.S. Department of Defense Quality Systems Manual for Environmental Laboratories*, Version 5.1.
- EDR 2015. EDR Radius Map™ Report with Geocheck®. December.
- EPA (U.S. Environmental Protection Agency) 1999. Contract Laboratory Program National Functional Guidelines for Organic Data Review, EPA 540/R-99/0008. October.
- EPA 2016a. *Drinking Water Health Advisory for Perfluorooctane Sulfonate*. Office of Water, Health and Ecological Criteria Division. EPA Document Number: EPA 822-R-16-004. May.
- EPA 2016b. *Drinking Water Health Advisory for Perfluorooctanoic Acid*. Office of Water, Health and Ecological Criteria Division. EPA Document Number: EPA 822-R-16-005. May.
- EPA 2018. May 2018 EPA Regional Screening Level (RSL) tables. Updated May 2018.
- Illian 1971. *State Engineer's Interim Report on the Ground Water in the Klamath Basin*, Appendix II of State Water Resources Board.
- Klamath Falls Airport. 2005. *Master Plan*. January.
- Leidos 2018. *Work Plan for Fiscal Year 2017 Phase III Regional Site Inspections for Perfluorooctane Sulfonate and Perfluorooctanoic Acid at Kingsley Field, Klamath Falls, Oregon*. Final. February.
- NGB (National Guard Bureau) 2011. *Integrated Natural Resources Management Plan and Environmental Assessment of Integrated Natural Resources Management Plan Implementation*. October.
- Science and Technology, Inc. 1993. *Site Assessment Report, Site 10, Volume 1, 114<sup>th</sup> Tactical Fighter Training Squadron, Oregon Air National Guard, Kingsley Field, Klamath Falls, Oregon*, April

URS Group, Inc., 2010. *Final Community Involvement Plan*. May.

USA.com. 2017. *Klamath Falls Weather*, Available online at: <http://www.usa.com/klamath-falls-or-weather.htm>.

USFWS (U.S. Fish and Wildlife Service) 2017. *National Wetlands Inventory*, Wetland Mapper. Retrieved from <https://www.fws.gov/wetlands/data/Mapper.html>. October 24.

USGS (U.S. Geological Survey) 2007. *Scientific Investigations Report 2007-5050; Ground-Water Hydrology of the Upper Klamath Basin, Oregon and California*.

## TABLES



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**Table 1. Preliminary Assessment Report Summary and Recommendations**

No.	Potential AFFF PRL	Rationale	Recommendation
1	Hangar 333	One documented significant AFFF discharge to grassy area east of the hangar in 2007.	Proceed to SI; focus on soil and groundwater immediately east of taxiway located east of Hangar 333.
2	FETA – North	Historical testing of FD equipment.	Proceed to SI, focus on soil and groundwater.
3	FETA – South	Historical testing of FD equipment.	Proceed to SI, focus on soil and groundwater.
4	FETA – Compass Rose	Historical testing of FD equipment. The most heavily used area on the Base.	Proceed to SI, focus on soil and groundwater.
5	Building 573	Minor amounts of AFFF potentially discharged to grassy areas outside fence to the north, west, and south of Building 573. Likely small amounts of AFFF utilized during post-repair mini tests.	Proceed to SI, focus on soil and groundwater.
6	Current and Former Fire Station – Building 216	Minor amounts of AFFF likely discharged to grassy surface during more recent foam testing in 2015.	Proceed to SI, focus on soil and groundwater.
7	North Outfall	Potential releases of AFFF may enter drainage ditches through this outfall.	Proceed to SI, focus on sediment and surface water.
8	South Outfall	Potential releases of AFFF may enter drainage ditches through this outfall.	Proceed to SI, focus on sediment and surface water.

AFFF = Aqueous film-forming foam.

FD = Fire department.

FETA = Fire equipment testing area.

PRL = Potential release location.

SI = Site inspection.

**Table 2. PFOS/PFOA SI Screening Criteria**

Parameter	Chemical Abstract Service Number	EPA RSL for Tap Water <sup>a</sup> (ng/L)	EPA Health Advisory <sup>b</sup> (ng/L)	Residential Risk-based Soil Screening Level <sup>c</sup> (µg/kg)
PFOS	1763-23-1	NA	70.0 <sup>d</sup>	1,260
PFOA	335-67-1	NA		1,260
PFBS	375-73-5	400,000 <sup>e</sup>	NA	1,260,000

<sup>a</sup> EPA RSL for tap water, May 2018; target HQ = 1.

<sup>b</sup> *Drinking Water Health Advisory for Perfluorooctanoic Acid* (EPA 2016b) and *Drinking Water Health Advisory for Perfluorooctane Sulfonate* (EPA 2016a).

<sup>c</sup> Residential risk-based soil screening levels determined by using the EPA RSL calculator ([https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl\\_search](https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search)) and the May 2018 EPA RSL tables (<https://epa.gov/risk/regional-screening-levels-rsls-generic-tables-may-2018>) for soil and sediment; target HQ = 1.

<sup>d</sup> When PFOA and PFOS are both present, the combined detected concentrations of the compounds are compared with the 70-ng/L health advisory value.

<sup>e</sup> PFBS analytical results for groundwater and surface water have been compared to the tap water screening levels; target HQ = 1.

µg/kg = Micrograms per kilogram.

EPA = U.S. Environmental Protection Agency.

HQ = Hazard quotient.

NA = Not available.

ng/L = Nanograms per liter.

PFBS = Perfluorobutane sulfonate.

PFOA = Perfluorooctanoic acid.

PFOS = Perfluorooctane sulfonate.

RSL = Regional screening level.

SI = Site inspection.

**Table 3. Summary of SI Activities**

<b>PRL Name</b>	<b>Analyzed Parameters*</b>	<b>Soil Borings</b>	<b>Soil Samples</b>	<b>Groundwater Samples</b>	<b>Stormwater Samples</b>	<b>Sediment Samples</b>
1. Hangar 333	PFOS/PFOA	3	6	1	NA	NA
2. FETA – North	PFOS/PFOA	3	6	1	NA	NA
3. FETA – South	PFOS/PFOA	3	6	1	NA	NA
4. FETA – Compass Rose	PFOS/PFOA	3	6	1	NA	NA
5. Building 573	PFOS/PFOA	3	6	2	NA	NA
6. Current and Former Fire Station – Building 216	PFOS/PFOA	2	4	1	NA	NA
7. North Outfall	PFOS/PFOA	0	0	0	NS	1
8. South Outfall	PFOS/PFOA	0	0	0	1	NS

\* PFOS/PFOA is used generically in this SI Report to include the following six 2012 third Unregulated Contaminant Monitoring Rule emerging contaminants: PFOS, PFOA, perfluorobutane sulfonate, perfluorononanoic acid, perfluoroheptanoic acid, and perfluorohexane sulfonate. All samples were analyzed for PFOS/PFOA using U.S. Environmental Protection Agency, Method 537, revision 1.1.

FETA = Fire equipment testing area.

NA = Not Applicable.

NS = No sample collected due to no presence of sediment or surface water.

PFOA = Perfluorooctanoic acid.

PFOS = Perfluorooctane sulfonate.

PRL = Potential release location.

SI = Site inspection.

**Table 4. Well Construction Details for Kingsley Field ANGB SI**

<b>Monitoring Well</b>	<b>Top of Casing Elevation (ft AMSL)</b>	<b>Ground Elevation (ft AMSL)</b>	<b>Screened Interval (ft BGS)</b>	<b>Total Well Depth (ft BTOC)</b>	<b>Well Diameter (in.)</b>	<b>Casing</b>
<b>PRL 1</b>						
MW-KLA01-01	4,088.11	4,088.01	5-15	15.5	2	PVC
<b>PRL 2</b>						
MW-KLA02-01	4,088.40	4,088.41	5-15	15.6	2	PVC
<b>PRL 3</b>						
MW-KLA03-01	4,089.72	4,089.66	4.8-14.8	16	2	PVC
<b>PRL 4</b>						
MW-KLA04-01	4,086.43	4,086.39	5.2-15.2	16	2	PVC
<b>PRL 6</b>						
MW-KLA06-01	4,089.08	4,088.98	4.7-14.7	15.5	2	PVC

Source: Top of casing elevation and ground surface elevation data for the new wells are from the monitoring well survey on May 8, 2018, by McBride Surveying Mapping (see Appendix C). Screened interval, total depth, and well diameter data in this table were obtained from the well construction diagrams provided in Appendix A.

AMSL = Above mean sea level.

ANGB = Air National Guard Base.

BGS = Below ground surface.

BTOC = Below top of casing.

PRL = Potential release location.

PVC = Polyvinyl chloride.

SI = Site inspection.

**Table 5. Water Level Measurements**

Monitoring Well Identifier	TOC Elevation (ft AMSL)	Screened Interval	May 2018	
			Depth to Water (ft BTOC)	Groundwater Elevation (ft AMSL)
MW-KLA01-01	4,088.11	5-15	4.32	4,083.79
MW-KLA02-01	4,088.40	5-15	3.89	4,084.51
MW-KLA03-01	4,089.72	4.8-14.8	6.25	4,083.47
MW-KLA04-01	4,086.43	5.2-15.2	2.55	4,083.88
MW-KLA06-01	4,089.08	4.7-14.7	8.24	4,080.84
MW-572-02-PRL05	4088.56	3 – 13	4.65	4083.91
MW-573-03-PRL05	4089.35	3 – 13	5.22	4084.13

Source: TOC elevation data for new wells are from the monitoring well survey on May 8, 2018 by McBride Surveying Mapping (See Appendix C). Screened interval and depth to water for the new wells were obtained from the well construction diagrams provided in Appendix A. TOC elevation and screening interval for the two existing wells were obtained from the 2014 SI Report (ANG 2014). Depth to water data for the existing wells is from the 2018 SI.

AMSL = Above mean sea level.

BTOC = Below top of casing.

TOC = Top of casing.

Table 6. Water Quality Parameters

Parameter	Groundwater						
	MW-KLA01-01 5/6/2018	MW-KLA02-01 5/6/2018	MW-KLA03-01 5/6/2018	MW-KLA04-01 5/6/2018	MW-KLA06-01 5/6/2018	MW-572-02-PRL05 5/6/2018	MW-573-03-PRL05 5/6/2018
Dissolved oxygen (mg/L)	8.16	2.02	0.09	0.31	9.61	8.89	0.23
ORP (mV)	128	177	-247	-159	-187	168	115
pH (S.U.)	8.00	9.08	8.62	9.56	8.25	9.51	8.69
Conductivity (mS/cm)	19.6	4.31	1.18	1.63	0.99	0.92	1.29
Temperature (°C)	15.8	16.0	14.3	15.6	14.2	15.8	15.9
Turbidity (NTU)	67.7	333	471	292	150	43.5	51.1

mg/L = Milligrams per liter.  
mS/cm = MicroSiemens per centimeter.  
mV = millivolt.  
NTU = Nephelometric turbidity unit.  
ORP = Oxidation-reduction potential.  
S.U. = Standard unit.

Table 7. Summary of Soil and Sediment Analytical Results

PRL	Location	Sample Identifier	Sample Date	Sample Depth (ft)	Analyte Screening Level*		Perfluorooctane Sulfonate (PFOS) (µg/kg)	Perfluorooctanoic Acid (PFOA) (µg/kg)	Perfluorobutane Sulfonate (PFBS) (µg/kg)	Perfluorohexanoic Acid (PFHpA) (µg/kg)	Perfluorohexane Sulfonate (PFHxS) (µg/kg)	Perfluorononanoic Acid (PFNA) (µg/kg)
					Sample Type	Sample						
					Soil							
1	KLA01-SB1	KLA01-SB1-01	5/2/18	0-2	REG	430 J	3.9	0.31 J	0.38	18	0.25 U	
	KLA01-SB1	KLA01-SB1-02	5/2/18	5-6	REG	210 J	1.0	0.31 J	0.32 J	9.1	0.26 U	
	KLA01-SB2	KLA01-SB2-01	5/2/18	0-2	REG	1.7	0.30 J	0.072 J	0.22 U	1.5	0.22 U	
	KLA01-SB2	KLA01-SB2-02	5/2/18	6-7	REG	3.2	0.39	0.15 J	0.14 J	2.4	0.26 U	
	KLA01-SB3	KLA01-SB3-01	5/2/18	0-2	REG	10	0.22 J	0.13 J	0.25 U	1.3 U	0.25 U	
	KLA01-SB3	KLA01-SB3-02	5/2/18	5.5-6.5	REG	1.1 J	0.25 U	0.23 U	0.25 U	0.32 J	0.25 U	
2	KLA02-SB1	KLA02-SB1-01	5/4/18	0-2	REG	7.6 J	0.46	0.25 J	0.16 J	2.6	0.26 U	
	KLA02-SB1	KLA02-SB1-02	5/4/18	4.5-5.5	REG	6.1	0.28 J	0.22 J	0.18 J	1.6	0.24 U	
	KLA02-SB1	KLA02-SB1-02D	5/4/18	4.5-5.5	FD	12	0.25 J	0.21 J	0.11 J	1.7	0.26 U	
	KLA02-SB2	KLA02-SB2-01	5/4/18	0-2	REG	390 J	2.2	5.1	1.1	21	0.38	
	KLA02-SB2	KLA02-SB2-02	5/4/18	3.5-4.5	REG	570 J	18	26	6.0	130 J	0.30 J	
	KLA02-SB2	KLA02-SB2-02D	5/4/18	3.5-4.5	FD	490 J	15	24	5.6	110 J	0.34 J	
3	KLA02-SB3	KLA02-SB3-01	5/4/18	0-2	REG	140 J	0.45	0.50	0.47	5.4	0.40	
	KLA02-SB3	KLA02-SB3-02	5/4/18	4-5	REG	21	1.0	1.8	0.81	9.4	0.12 J	
	KLA03-SB1	KLA03-SB1-01	5/1/18	0-2	REG	3.0	0.26 U	0.082 J	0.26 U	0.99	0.26 U	
	KLA03-SB1	KLA03-SB1-02	5/1/18	5-6	REG	17	0.22 J	0.21 J	0.26 U	2.4	0.26 U	
	KLA03-SB2	KLA03-SB2-01	5/2/18	0-2	REG	3.4	0.15 J	0.10 J	0.25 U	0.71	0.25 U	
	KLA03-SB2	KLA03-SB2-01D	5/2/18	0-2	FD	2.7	0.16 J	0.098 J	0.26 U	0.71	0.26 U	
	KLA03-SB2	KLA03-SB2-02	5/2/18	5.5-6.5	REG	4.9	0.15 J	0.15 J	0.26 U	1.1	0.26 U	
	KLA03-SB3	KLA03-SB3-01	5/1/18	0-2	REG	3.2	0.37 J	0.21 J	0.36 J	2.7	0.27 U	
	KLA03-SB3	KLA03-SB3-02	5/1/18	5.5-6.5	REG	14	1.3	0.75	0.59	12	0.27 U	

Table 7. Summary of Soil and Sediment Analytical Results (continued)

Analyte						Perfluorooctane Sulfonate (PFOS)	Perfluorooctanoic Acid (PFOA)	Perfluorobutane Sulfonate (PFBS)	Perfluorooheptanoic Acid (PFHpA)	Perfluorohexane Sulfonate (PFHxS)	Perfluorononanoic Acid (PFNA)
PRL	Location	Sample Identifier	Sample Date	Sample Depth (ft)	Screening Level*	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)
4	KLA04-SB1	KLA04-SB1-01	5/4/18	0-2	REG	2200 J	3.2	0.45 J	0.66	24	0.16 J
	KLA04-SB1	KLA04-SB1-02	5/4/18	4.5-5.5	REG	3600 J	19	14	4.4	190 J	0.60 J
	KLA04-SB2	KLA04-SB2-01	5/4/18	0-2	REG	6600 J	26 J	14 J	14	200 J	1.6 J
	KLA04-SB2	KLA04-SB2-02	5/4/18	4.5-5.5	REG	4800 J	210 J	84 J	44 J	1100 J	1.6
	KLA04-SB3	KLA04-SB3-01	5/4/18	0-2	REG	4500 J	12	19	3.8	53 J	1.1 J
	KLA04-SB3	KLA04-SB3-02	5/4/18	5.5-6.5	REG	3800 J	85 J	110 J	29	730 J	1.2
5	KLA05-SB1	KLA05-SB1-01	5/5/18	0-2	REG	170 J	2.3	4.9	1.6	78 J	0.61
	KLA05-SB1	KLA05-SB1-01D	5/5/18	0-2	FD	650 J	12	3.1	1.8	300 J	2.8
	KLA05-SB1	KLA05-SB1-02	5/5/18	5-6	REG	6.5	0.23 J	0.077 J	0.25 U	2.6	0.25 U
	KLA05-SB2	KLA05-SB2-01	5/5/18	0-2	REG	40 J	1.6	0.32 J	0.45	20	0.36
	KLA05-SB2	KLA05-SB2-02	5/5/18	5-6	REG	42 J	1.2	0.29 J	0.38 J	8.9	0.34 J
	KLA05-SB3	KLA05-SB3-01	5/5/18	0-2	REG	14000 J	62 J	6.7	14	650 J	2.6 J
6	KLA05-SB3	KLA05-SB3-02	5/5/18	5.5-6.5	REG	980 J	3.8	0.58	1.5	15	0.25 J
	KLA06-SB1	KLA06-SB1-01	5/1/18	0-2	REG	250 J	1.3	0.27 J	0.71	11	2.4
	KLA06-SB1	KLA06-SB1-02	5/1/18	4.5-5.5	REG	120 J	1.1	0.19 J	0.25 J	6.8	1.4
	KLA06-SB2	KLA06-SB2-01	5/1/18	0-2	REG	960 J	6.7 J	0.99	1.2 J	44 J	1.6
	KLA06-SB2	KLA06-SB2-02	5/1/18	4.5-5.5	REG	1600 J	6.4	2.1	1.6	45 J	1.7 J
	KLA06-SB2	KLA06-SB2-02D	5/1/18	4.5-5.5	FD	1100 J	4.1	1.4	1.0	45 J	1.8 J

Table 7. Summary of Soil and Sediment Analytical Results (continued)

PRL	Location	Sample Identifier	Sample Date	Sample Depth (ft)	Screening Level*		Analyte	Perfluorooctane Sulfonate (PFOS)	Perfluorooctanoic Acid (PFOA)	Perfluorobutane Sulfonate (PFBS)	Perfluoroheptanoic Acid (PFHPA)	Perfluorohexane Sulfonate (PFHxS)	Perfluorononanoic Acid (PFNA)
					Sample Type	Sample							
Sediment													
7	KLA07-SD1	KLA07-SD1-01	5/6/18	0		REG	1.5 U	0.22 U	0.19 U	0.22 U	0.22 U	0.22 U	0.22 U
	KLA07-SD1	KLA07-SD1-01D	5/6/18	0		FD	15	0.48	0.20 J	0.12 J	2.1	0.27 U	0.27 U

\* U.S. Environmental Protection Agency (EPA) residential risk-based soil screening level determined using the EPA regional screening level (RSL) calculator and May 2018 EPA RSL tables.

**Bold** denotes detected concentration.

µg/kg = Micrograms per kilogram.

FD = Field duplicate.

NA = Not applicable.

PRL = Potential release location.

REG = Regular.

**Data Qualifiers:**

J = Estimated concentration.

U = Chemical not detected above the laboratory detection limit.



Table 8. Summary of Groundwater and Surface Water Analytical Results

PRL	Location	Sample Identifier	Sample Date	Sample Depth (ft)	Sample Type	Analyte		Perfluorooctane Sulfonate (PFOS)	Perfluorooctanoic Acid (PFOA)	PFOS+PFOA	Perfluorobutane Sulfonate (PFBS)	Perfluorohexanoic Acid (PFHpA)	Perfluorohexane Sulfonate (PFHxS)	Perfluorononanoic Acid (PFNA)
						Health Advisory <sup>a</sup>								
						EPA RSL Tap Water <sup>b</sup>								
						Groundwater								
1	MW-KLA01-01	MW-KLA01-01-01	5/6/18	10	REG	500J	20	520	39	7.6	220	0.56J		
2	MW-KLA02-01	MW-KLA02-01-01	5/6/18	10	REG	380000J	21000	401,000	9700J	7700J	66000J	340J		
3	MW-KLA03-01	MW-KLA03-01-01	5/6/18	10	REG	6100J	290	6390	180	200	2700J	16		
4	MW-KLA04-01	MW-KLA04-01-01	5/6/18	10	REG	100	41	141	96	27	690J	1.5U		
5	MW-572-02-PRL05-01	MW-572-02-PRL05-01	5/6/18	10	REG	1100J	56	1156	27	25	360J	3.8		
	MW-572-02-PRL05-01	MW-572-02-PRL05-01D	5/6/18	10	FD	1200J	57	1257	28	24	390J	3.9		
	MW-573-03-PRL05	MW-573-03-PRL05-01	5/6/18	10	REG	63000J	6700J	69,700	3900J	5100J	39000J	200J		
6	MW-KLA06-01	MW-KLA06-01-01	5/6/18	10	REG	130000J	14000J	144,000	7900J	5400J	68000J	490J		
Surface water														
8	KLA07-SW1	KLA08-SW1-01	5/7/18	NA	REG	28	1.8 J	29.8	0.96 U	1.5 J	3.7	0.95 J		

<sup>a</sup> May 2016 EPA health advisory for PFOS/PFOA combined.  
<sup>b</sup> May 2018 EPA RSL for tap water.

**Bold** denotes detected concentration.

**Bold highlighted** denotes concentration that exceeds screening criteria.

EPA = U.S. Environmental Protection Agency.

FD = Field duplicate.

NA = Not applicable.

ng/L = Nanograms per liter.

PRL = Potential release location.

REG = Regular.

RSL = Regional screening level.

**Data Qualifiers:**

J = Estimated concentration.

U = Chemical not detected above the laboratory detection limit.

Table 9. SI Recommendation Summary Table

PRL No.	PRL Description	Constituents Above Screening Criteria	Sampling Recommendations and Objectives
1	Hangar 333	<b>Groundwater:</b> PFOS + PFOA	<p><b>Soil:</b> Although screening criteria were not exceeded, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration.</p> <p><b>Groundwater:</b> Although soil screening criteria were not exceeded at PRL 1, there were exceedances in groundwater at the downgradient well MW-KLA01-01. Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.</p>
2	FETA – North	<b>Groundwater:</b> PFOS + PFOA	<p><b>Soil:</b> Although screening criteria were not exceeded, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration.</p> <p><b>Groundwater:</b> Although soil screening criteria were not exceeded at PRL 2, exceedances occurred in groundwater at downgradient well MW-KLA02-01. Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.</p>
3	FETA – South	<b>Groundwater:</b> PFOS + PFOA	<p><b>Soil:</b> Although screening criteria were not exceeded, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration.</p> <p><b>Groundwater:</b> Although soil screening criteria were not exceeded at PRL 3, exceedances occurred in groundwater at downgradient well MW-KLA03-01. Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.</p>
4	FETA – Compass Rose	<b>Soil:</b> PFOS <b>Groundwater:</b> PFOS + PFOA	<p><b>Soil:</b> Additional surface and subsurface soil samples are proposed to further define the nature and extent of PFOS soil exceedances and to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration.</p> <p><b>Groundwater:</b> Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.</p>
5	Building 573	<b>Soil:</b> PFOS <b>Groundwater:</b> PFOS + PFOA	<p><b>Soil:</b> Additional surface and subsurface soil samples are proposed to determine the extent of the one PFOS exceedance and to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration.</p> <p><b>Groundwater:</b> Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.</p>
6	Current and Former Fire Station – Building 216	<b>Soil:</b> PFOS <b>Groundwater:</b> PFOS + PFOA	<p><b>Soil:</b> Additional surface and subsurface soil samples are proposed to determine the extent of the one PFOS exceedance and to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration.</p> <p><b>Groundwater:</b> Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells.</p>

Table 9. SI Recommendation Summary Table (continued)

PRL No.	PRL Description	Constituents Above Screening Criteria	Sampling Recommendations and Objectives
7	North Outfall	None	<b>Surface Water and Sediment:</b> PFOS/PFOA compounds were detected in sediment below screening criteria. Determine the PFOS/PFOA impact to surface water through additional upgradient sampling of surface water and sediment and evaluate potential downgradient impacts at the outfall located off Base.
8	South Outfall	None	<b>Surface Water and Sediment:</b> PFOS/PFOA compounds were detected in surface water below screening criteria. Determine the PFOS/PFOA impact to surface water through additional upgradient sampling of surface water and sediment and evaluate potential downgradient impacts at the outfall located off Base.
<b>General</b>			<p><b>Soil:</b> Collect additional surface and subsurface soil samples to determine the nature and extent both vertically and horizontally of the exceedances and to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration.</p> <p><b>Groundwater:</b> (1) Collect additional groundwater samples in upgradient locations to quantify potential impacts from upgradient sources, and (2) collect additional groundwater samples off Base through the installation of a limited number of new monitoring wells to determine if PFOS/PFOA impacts beyond the Base boundary are increasing or decreasing.</p> <p><b>Surface Water/Sediment:</b> (1) Collect additional surface water and sediment samples in upgradient locations to quantify potential impacts from upgradient sources; (2) collect additional surface water and sediment samples from downgradient locations off Base to define the nature and extent of PFAS contamination beyond the Base boundary.</p>

FETA = Fire equipment testing area.

PFOA = Perfluorooctanoic acid.

PFOS = Perfluorooctane sulfonate.

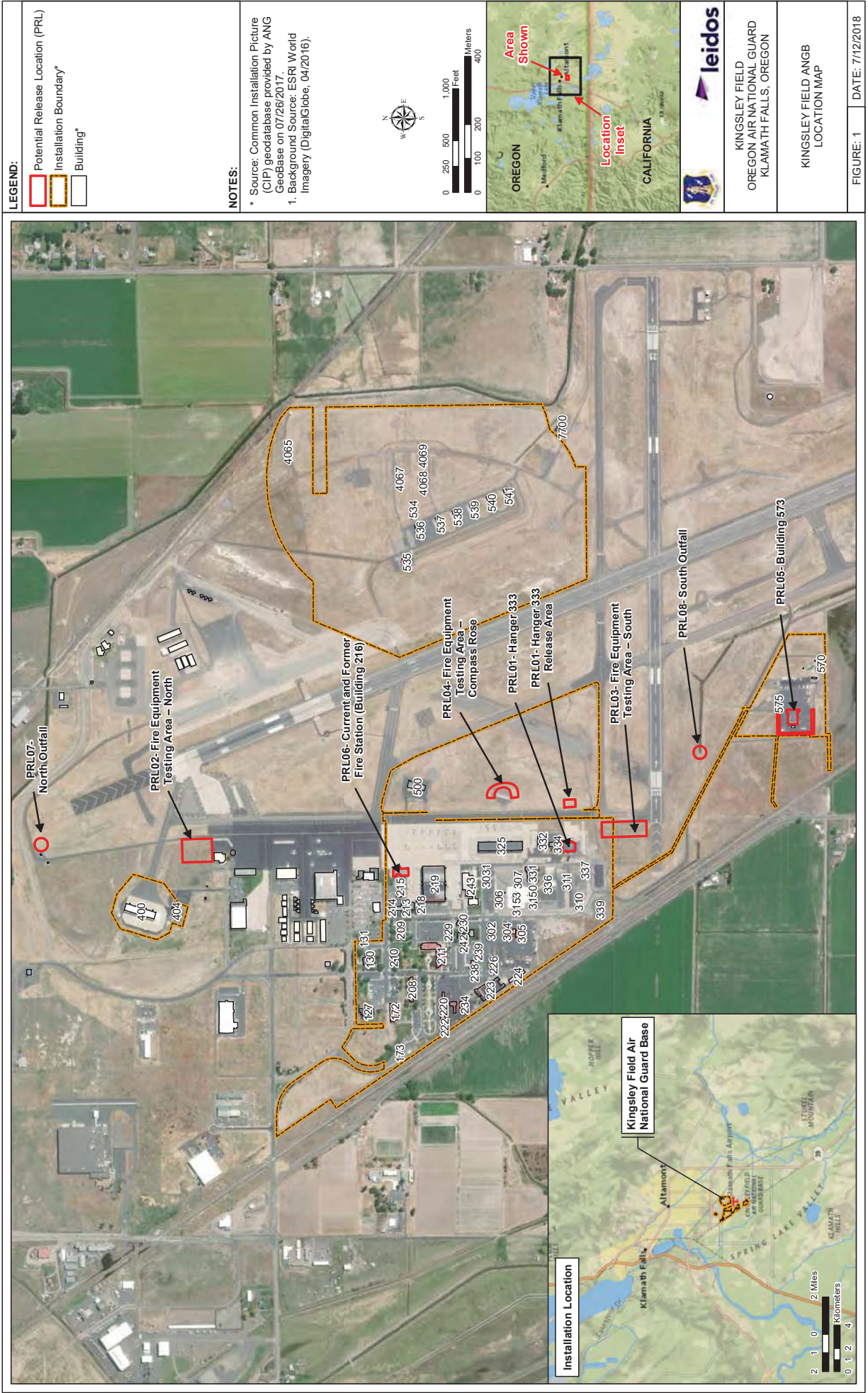
PRL = Potential release location.

SI = Site inspection.

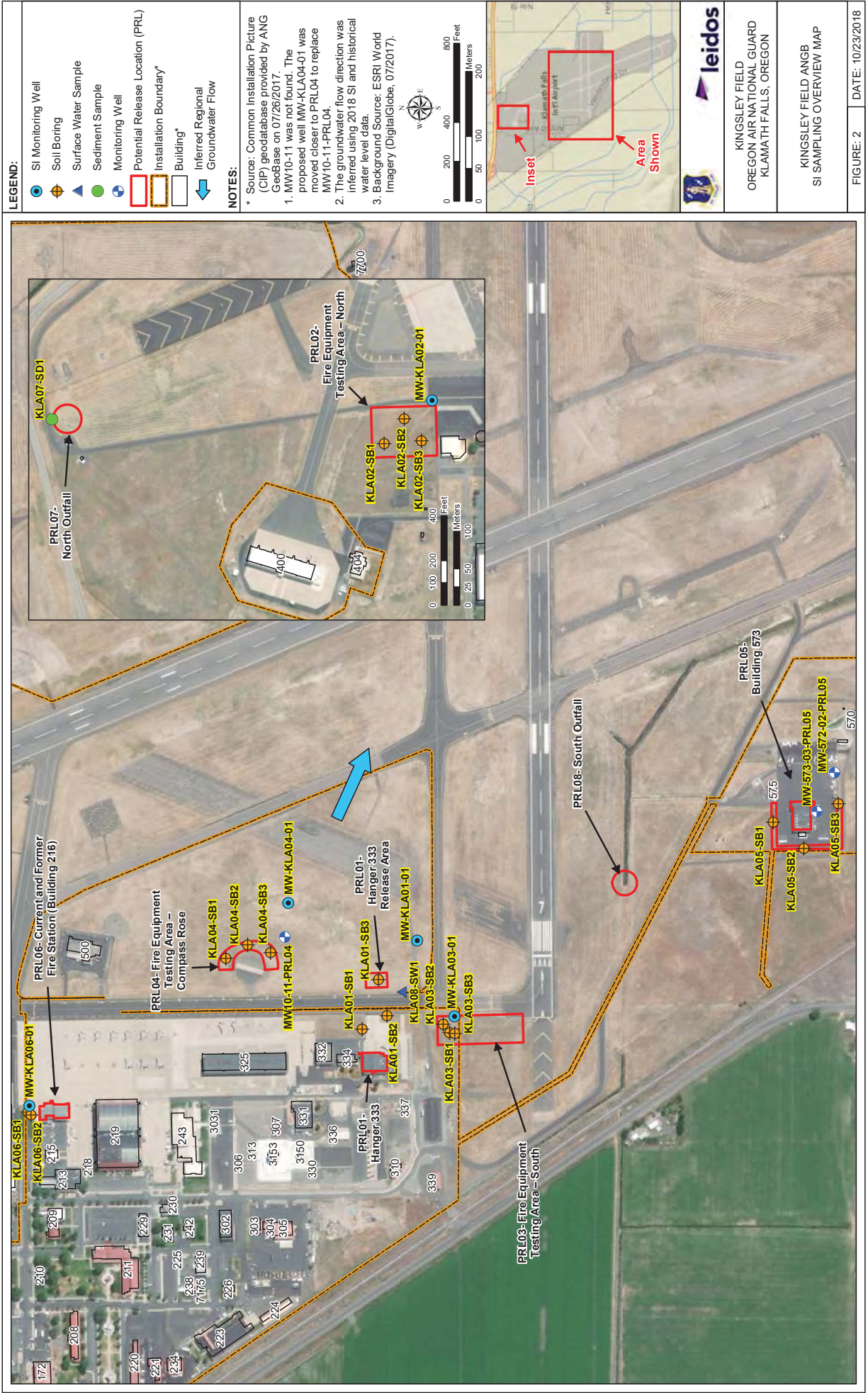
## **FIGURES**

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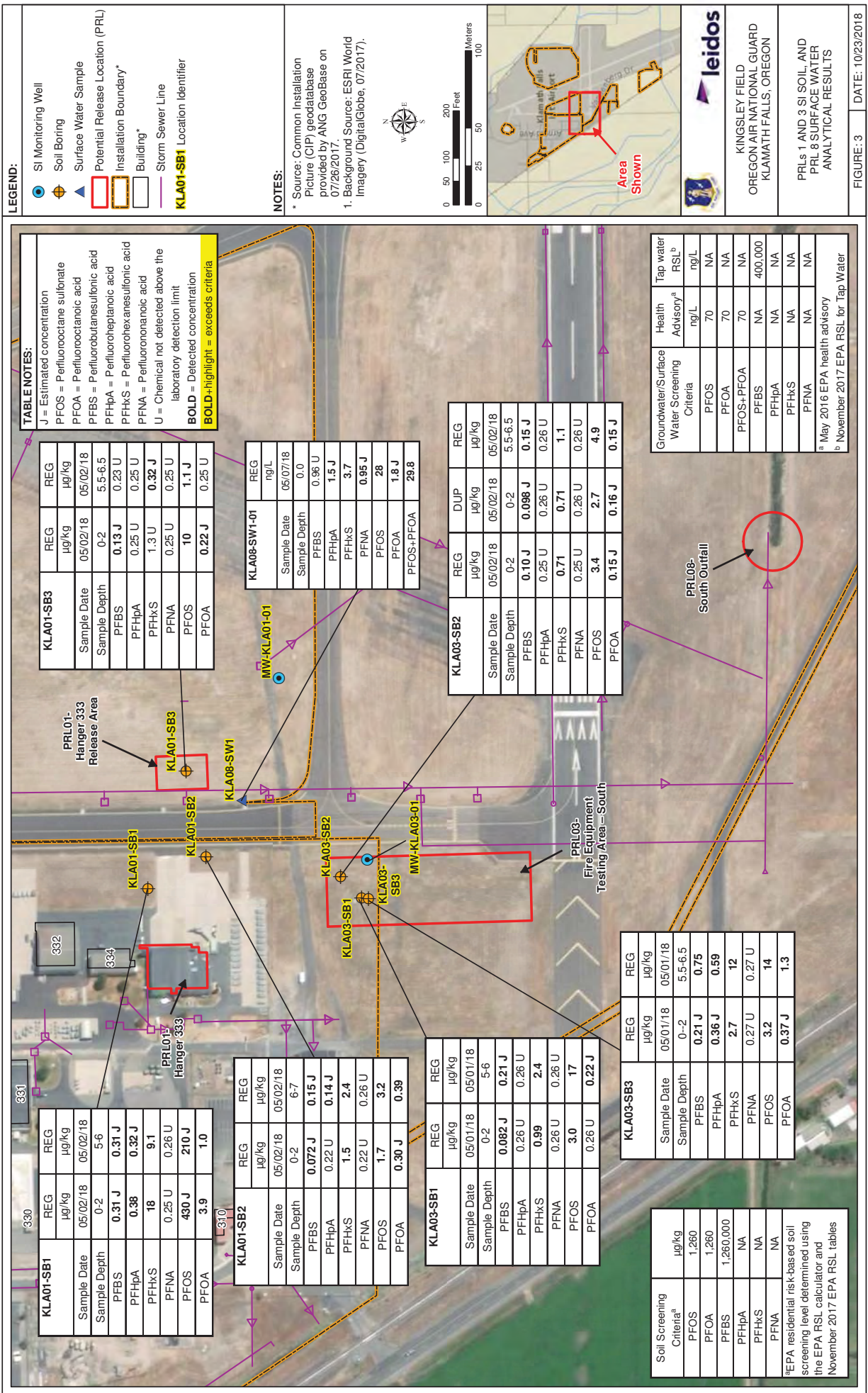




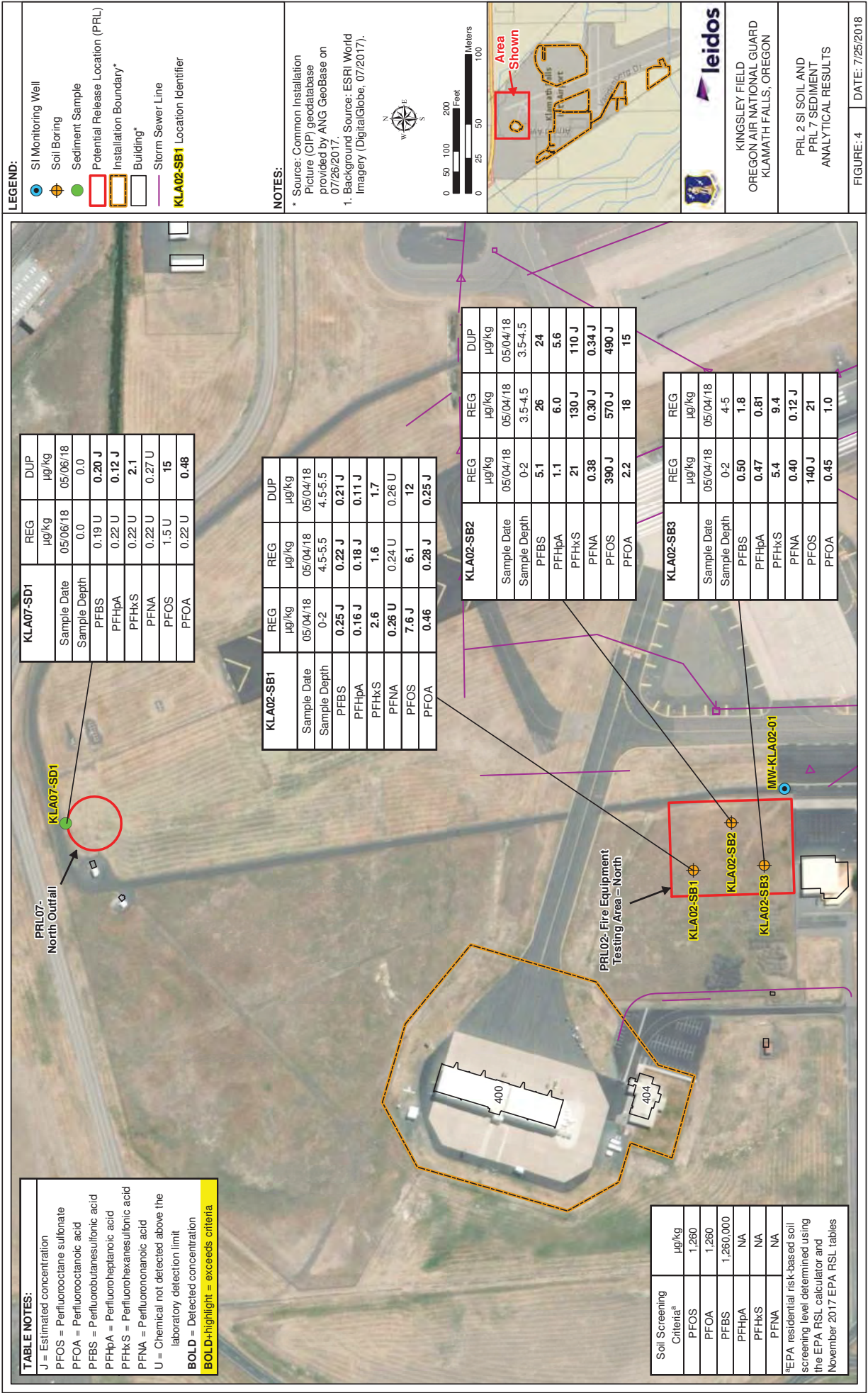






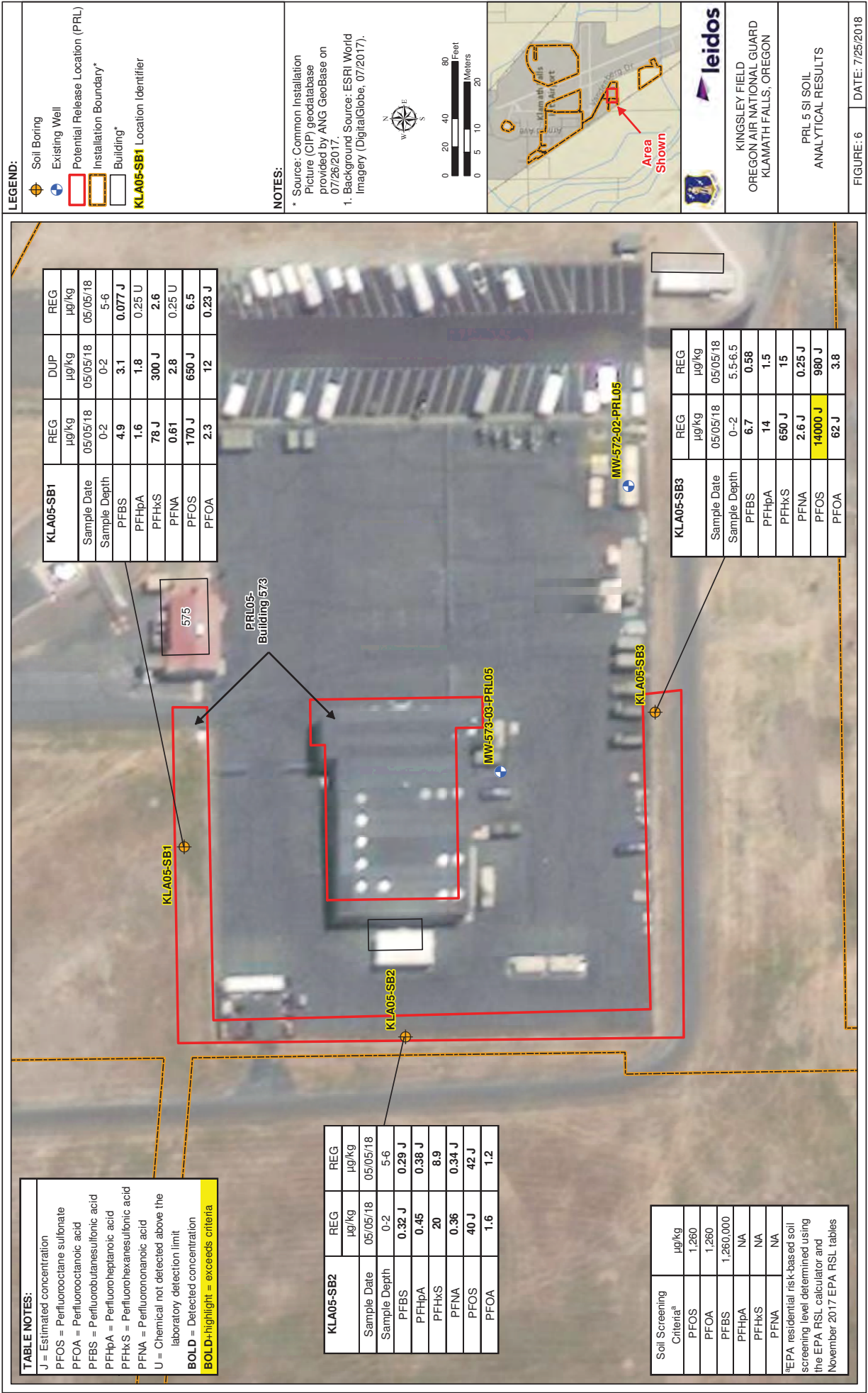


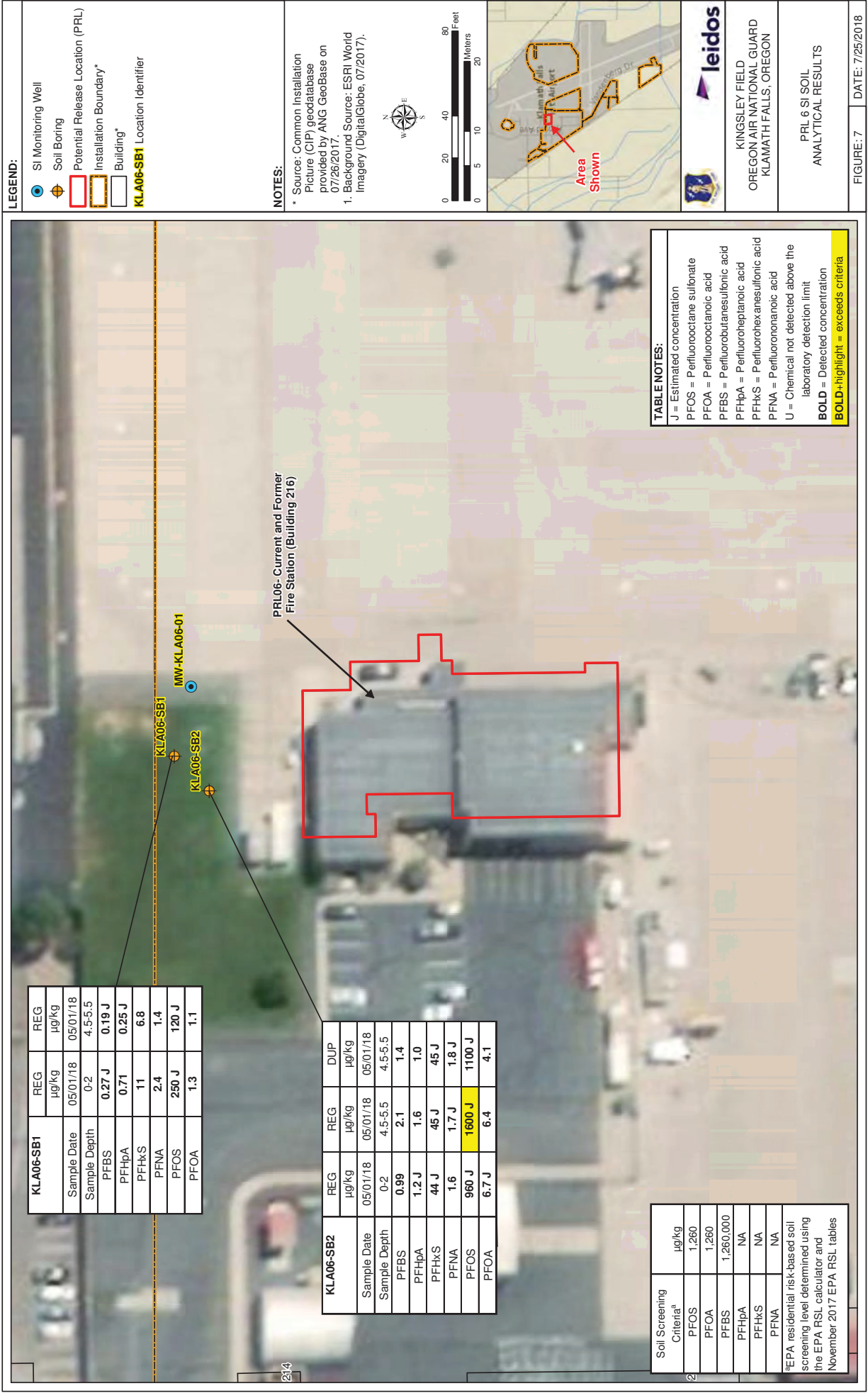




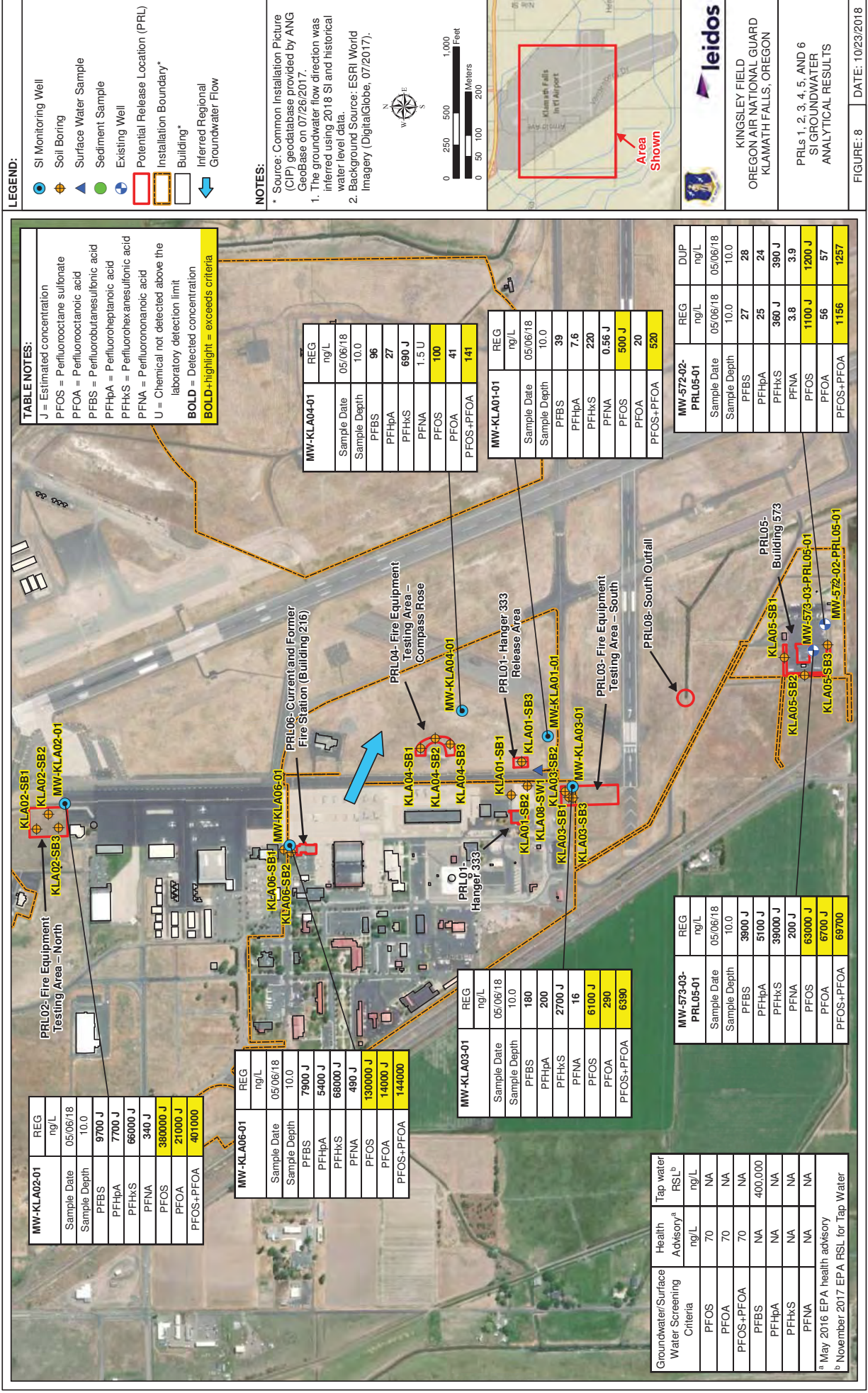












**APPENDIX A**

**SOIL BORINGS AND WELL CONSTRUCTION LOGS**

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Client/Installation ANG/Klamath ANGB		Borehole Number KLA03-SB3		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.1.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes	
0.5	10YR3/2 Very dark grayish brown silty SAND SM, dry Loose	0.0		KLA03-SB3-01 0845	
1					
1.5					
2	10YR6/4 light yellowish brown fine SAND SM, damp, medium dense	0.0			
2.5					
3					
3.5					
4					
4.5					
5					
5.5					
6	10YR4/4 Dark yellowish brown silty SAND 5% gravel, SM saturated, med. dense	0.0		KLA03-SB3-02 0850	
6.5					
7					
7.5					
8					
8.5					
9					
9.5					
10	BOE				

# SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLA03-SB3
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	1

SAC - TestAmerica Sacramento

Sample Data	Sample No. 1
SAMPLE ID NUMBER:	KLA03-SB3-01
SAMPLE DEPTH:	0-2'

FIELD	READING	UNITS
PID	0.0	ppm
Date/Time: 5-1-18 0845		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data	Sample No. 2
SAMPLE ID NUMBER:	KLA03-SB3-02
SAMPLE DEPTH:	55-6.5

FIELD	READING	UNITS
PID	0.0	ppm
Date/Time: 5-1-18 0850		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

COMMENTS:

RELINQUISHED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME
Chris Wildt			
COMPANY Leidos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	

A-6



Client/Installation ANG/Klamath ANGB		Borehole Number KLA03-SB_1		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5/1/18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes	
0.5	103/2 Very dark grayish brown SAND, SW, dry, loose	0.1		KLA03-SB1-01 C 0900	
1					
1.5					
2					
2.5					
3					
3.5	104R S/3 Brown silty SAND, SM damp, med. dense	0.0			
4					
4.5					
5					
5.5				KLA03-SB1-02 C 0905	
6					
6.5	104R 3/1 Very dark gray SAND, SM saturated, med. dense				
7					
7.5					
8					
8.5					
9					
9.5	BOE				
10					

# SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLA03-SB_1
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	1

SAC - TestAmerica Sacramento

Sample Data	Sample No. 1
SAMPLE ID NUMBER:	KLA03-SB_1-01
SAMPLE DEPTH:	0-2'

FIELD	READING	UNITS
PID		ppm
Date/Time: 5-1-18 0800		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data	Sample No. 2
SAMPLE ID NUMBER:	KLA-SB_-02
SAMPLE DEPTH:	5-6'

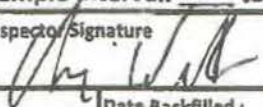
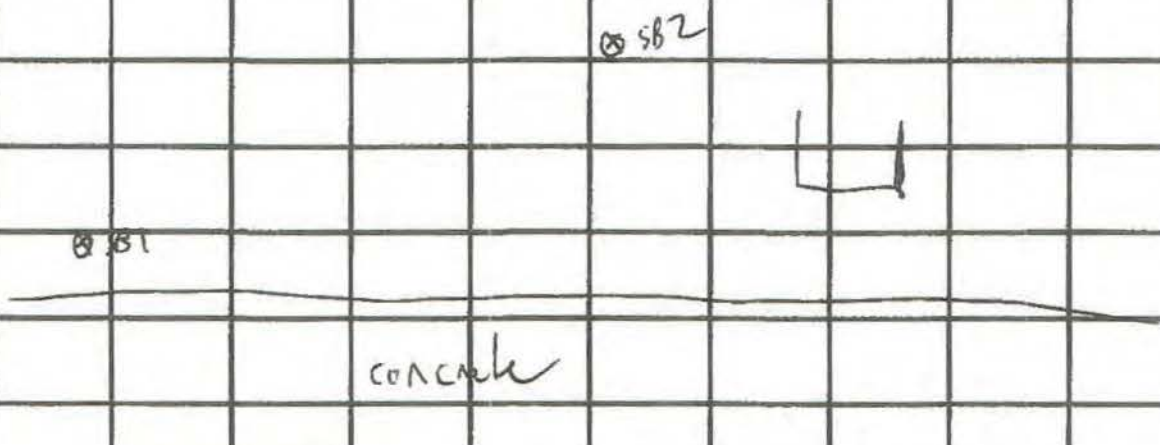
FIELD	READING	UNITS
PID		ppm
Date/Time: 5-1-18 0905		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

COMMENTS:

RELINQUISHED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME
Chris Wildt			
COMPANY Leldos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	

Client/Installation <b>ANG/Klamath ANGB</b>		Oversight Contractor <b>Leidos</b>	Borehole Number <b>KLACG-SB 2</b>
Project <b>FY17 Phase 3 Regional SI for PFOS/PFOA</b>		Driller : Cascade <b>ANG/Klamath ANGB</b>	Page Page <u>1</u> of <u>2</u>
Size and Type of Drilling and Sampling Equipment <b>Geoprobe 7820T</b>		Borehole Location Description <b>W. of AWKLAG 01</b>	
Date/Time Started : <b>5.1.18 / 1330</b>		Date/Time Finished : <b>5.1.18 / 1400</b>	
Overburden Thickness <b>3"</b>	Depth to Groundwater <b>6'</b>	Total Depth <b>10'</b>	
Sample for PFOS/PFOA Analysis Sample ID: <b>KLACG-SB 2-01</b> Sample Interval: <b>0 to 2 ft</b>		Sample for PFOS/PFOA Analysis Sample ID: <b>KLACG-SB 2-02</b> Sample Interval: <b>    </b> to <b>    </b> ft	
Inspector Name <b>Chris Wildt</b>		Inspector Signature 	
Monitoring Well ID: <b>N/A</b>	Backfill Type <b>Bentonite</b>	Date Backfilled: <b>5.1.18</b>	
Latitude	Longitude	Elevation (ft)	
Notes:			
Sketch:			
			



Client/Installation ANG/Klamath ANGB		Borehole Number KLAG-SB 2		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5-1-18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	grass				
1	10YR 4/4 Dark yellowish brown silty SAND 5% gravel, SM, dry, loose	0.0		KLAG-SB-2-01 @ 1345	
1.5					
2					
2.5					
3					
3.5					
4	10YR 3/1 Very dark gray clayey SAND, CL, damp, med. dense	0.0		KLAG-SB-2-02 @ 1350 + Dup.	
4.5					
5					
5.5					
6					
6.5					
7	10YR 3/4 Dark Yellowish Brown SAND, SW saturated, loose	0.0			
7.5					
8					
8.5					
9					
9.5					
10					

# SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLA06-SB2
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	1

SAC - TestAmerica Sacramento

Sample Data	Sample No. 1
SAMPLE ID NUMBER:	KLA06-SB2-01
SAMPLE DEPTH:	0-2'

FIELD	READING	UNITS
PID		ppm
Date/Time: 5-1-18 1345		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data	Sample No. 2
SAMPLE ID NUMBER:	KLA06-SB2-02
SAMPLE DEPTH:	4.5 - 5.5

FIELD	READING	UNITS
PID		ppm
Date/Time: 5-1-18 1350		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" Insufficient volume; "NR" not required; define other code as appropriate

COMMENTS: + MS/MSD

RELINQUISHED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME
Chris Wildt			
COMPANY Leidos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	





Client/Installation ANG/Klamath ANGB		Borehole Number KLAGG-SB 1		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5-1-18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	grass				
1	10YR 5/3 Brown silty SAND w/ 10% gravel, SM, loose, dry	0.0		KLAGG-SB-1-01 @ 1415	
1.5					
2					
2.5					
3	10YR 3/1 Very dark gray silty SAND, SM, damp, med. dense	0.0			
3.5					
4					
4.5					
5	10YR 3/2 very dark grayish brown SAND, SW, wet, med. dense	0.0		KLAGG-SB-1-02 @ 1420	
5.5					
6					
6.5					
7					
7.5					
8					
8.5	SAR				
9					
9.5					
10					

SAR - same as above

# SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLAUG-SB 1
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	

SAC - TestAmerica Sacramento

Sample Data	Sample No. 1
SAMPLE ID NUMBER:	KLAUG-SB 1-01
SAMPLE DEPTH:	0-2'

FIELD	READING	UNITS
PID	0.0	ppm
Date/Time: 5/18/14 15		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data	Sample No. 2
SAMPLE ID NUMBER:	KLAUG-SB 1-02
SAMPLE DEPTH:	4.5-5.5

FIELD	READING	UNITS
PID		ppm
Date/Time: 5/18/14 20		


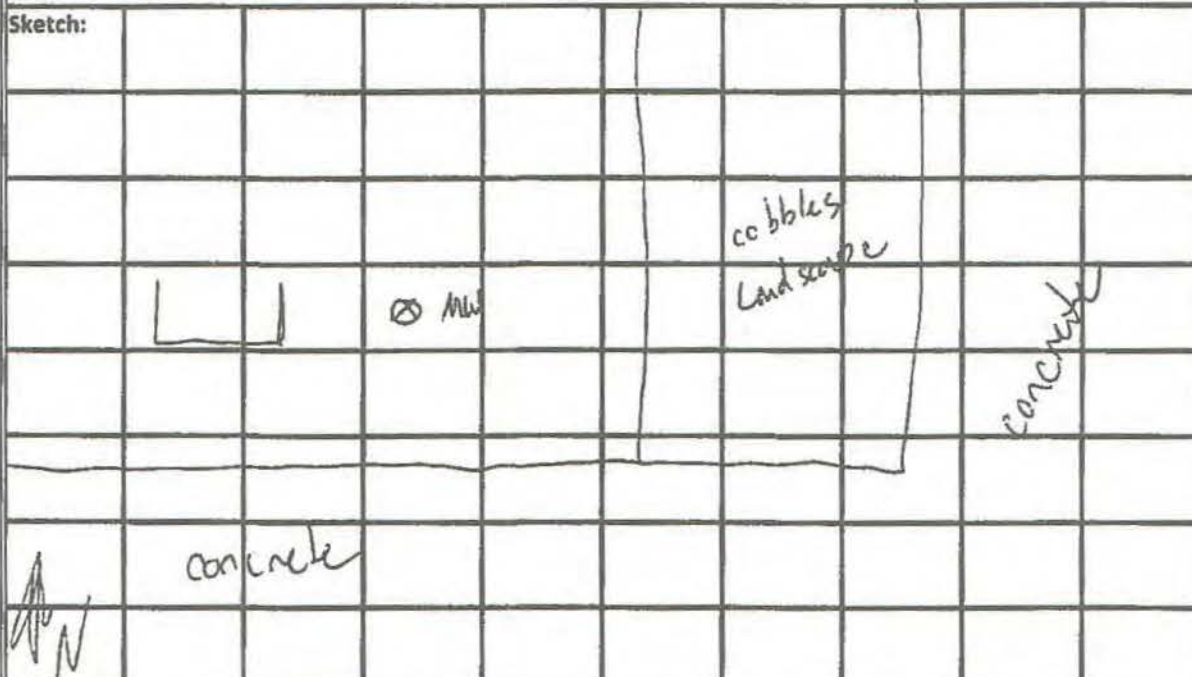
NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" Insufficient volume; "NR" not required; define other code as appropriate

COMMENTS:

RELINQUISHED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME
Chris Wildt			
COMPANY Leldos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	



Client/Installation <b>ANG/Klamath ANGB</b>		Oversight Contractor <b>Leidos</b>		Borehole Number <b>MW-KLA06-01</b>	
Project <b>FY17 Phase 3 Regional SI for PFOS/PFOA</b>		Driller: <b>Cascade Striking</b> <b>ANG/Klamath ANGB</b>		Page Page <u>1</u> of <u>4</u>	
Size and Type of Drilling and Sampling Equipment <b>Geopicker 7822 DPT</b>				Borehole Location Description <b>E. of Horseshoe Pit</b>	
Date/Time Started: <b>5/1/18 / 1040</b>		Date/Time Finished: <b>5/1/18 /</b>			
Overburden Thickness <b>-</b>		Depth to Groundwater <b>~ 6</b>		Total Depth <b>19.5' (refusal)</b>	
Sample for PFOS/PFOA Analysis					
Sample ID: <b>MW-KLA06-01.01</b>					
Inspector Name <b>Chris Wildt</b>			Inspector Signature 		
Monitoring Well ID: <b>MW-KLA06-01</b>		Backfill Type <b>Bentonite</b>		Date Backfilled: <b>5-1-18</b>	
Latitude		Longitude		Elevation (ft)	
Notes:					
Sketch:					
					

Client/Installation ANG/Klamath ANGB		Borehole Number MW-KLAG-01		Page Page 2 of 4	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.1.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	Grass				
1					
1.5	10YR 4/3 Brown silty SAND, SM, dry loose	0.0			
2					
2.5					
3					
3.5					
4					
4.5					
5					
5.5	10YR 3/2 Very dark grayish brown SAND, SM wet, med dense	0.1			
6					
6.5					
7					
7.5					
8					
8.5					
9					
9.5					
10					

Client/Installation ANG/Klamath ANGB		Borehole Number MW-KLAC <sup>2</sup> -01		Page Page 3 of 4	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5/18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
10.5	10YR 4/4 Pink yellowish Brown SAND, SW subworked, med. dense				
11.0					
11.5					
12.0					
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.0	refusal				
15.5	↓				
16.0	BOE				
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					

Client/Installation ANG/Klamath ANGB		Borehole Number MW-KLA/G-01		Page Page 4 of 4	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date:	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
20.5					20.5
21					21.0
21.5					21.5
22					22.0
22.5					22.5
23					23.0
23.5					23.5
24					24.0
24.5					24.5
25					25.0
25.5					25.5
26					26.0
26.5					26.5
27					27.0
27.5					27.5
28					28.0
28.5					28.5
29					29.0
29.5					29.5
30					30.0

Not used



MONITORING WELL			
PROJECT NAME: Phase III Regional Site Inspections for PFOS/PFOA		DELIVERY ORDER NO: 0011	
WELL NUMBER: MW-KLAOG-01	BEGIN: 1040	END: 1230	
COORDINATES: N: E:	REFERENCE POINT:	ELEVATION:	

HOLE DIA: (IN) → 6" ←

DEPTH	ELEV
0	
12"	
1.5	
3.7	
4.7	
14.7	
14.9	
15.5	

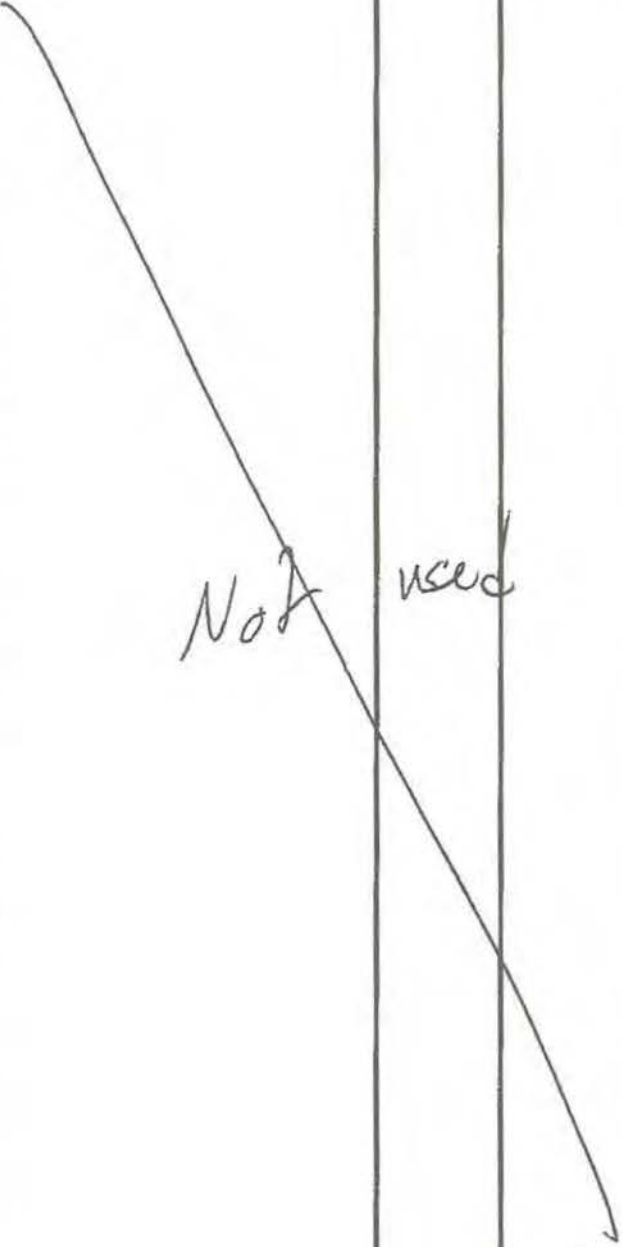


Client/Installation ANG/Klamath ANGB		Borehole Number MW-KLAG3-01		Page Page 2 of 4	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.2.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	grass	0.0			
1	10YR 3/4 Dark yellowish brown				
1.5	sandy SILT, no gravel				
2	no odor, SM, dry				
2.5	Loose				
3					
3.5	SAA				
4					
4.5					
5					
5.5					
6					
6.5					
7	10YR 4/5 Brown silty				
7.5	SAND, SM, wet,				
8	med. loose				
8.5					
9					
9.5					
10					

\* SAA = same as above

Client/Installation ANG/Klamath ANGB		Borehole Number MW-KLA03-01		Page Page 3 of 4	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.2.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
10.5					
11.0					
11.5					
12.0					
12.5					
13.0					
13.5	10YR 4/3 silty				
14.0	SAND, SM,	0-3			
14.5	saturated, med dense				
15.0				Heaving sands	
15.5					
16.0	BOE				
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					



Client/Installation ANG/Klamath ANGB		Borehole Number MW-KLA _ _		Page Page <u>4</u> of <u>4</u>	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date:	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
20.5	 <p>Not used</p>				
21					
21.5					
22					
22.5					
23					
23.5					
24					
24.5					
25					
25.5					
26					
26.5					
27					
27.5					
28					
28.5					
29					
29.5					
30					

MONITORING WELL			
PROJECT NAME: Phase III Regional Site Inspections for PFOS/PFOA		DELIVERY ORDER NO: 0011	
WELL NUMBER: MW-KLA03-01	BEGIN: 5-2-18/0930	END: 5-2-18/1200	
COORDINATES: N: E:	REFERENCE POINT:		ELEVATION:

	DEPTH	ELEV
	0	
PROTECTIVE CASING DIA: (IN) 12" TYPE: Morris	1.0	
BACKFILL MATERIAL TYPE: Quickrete concrete	1.5	
RUBER CASING DIA: (IN) 2.0" TYPE: Sched 40 PVC	3.8	
ANNULAR SEAL TYPE: Bentonite 3/8" Hole Plug	4.80	
FILTER PACK TYPE: Colorado silica Sand 10/20	14.80	
SCREEN DIA: (IN) 2 TYPE: PVC OPENING: Slot WIDTH: .010	14.10	
BOTTOM OF HOLE	16'	





Client/Installation ANG/Klamath ANG		Borehole Number KLA03-SB2		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.2.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	10YR 3/4 Dark yellowish Brown silty SAND, SM, dry, loose	0.5		KLA03-SB2-01 @ 1215	
1		1.20 ccw			
2					
2.5	10YR 5/6 yellowish Brown silty SAND SM, damp, med. dense	0.7			
3					
3.5					
4					
4.5					
5					
5.5	10YR 3/6, dark yellowish brown silty SAND, SM w/ 20% gravel, with gravel lens	0.5		KLA03-SB2-02 @ 1220	
6		1.50 ccw			
6.5					
7					
7.5	10YR 4/6 dark yellowish Brown SAND, SW, saturated, med. dense				
8					
8.5					
9					
9.5					
10					

moisture  
\* PID malfunction, cleaned + recalibrated

# SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLA03-SB 2
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	1

SAC - TestAmerica Sacramento

Sample Data	
SAMPLE ID NUMBER:	KLA03-SB 2-01
SAMPLE DEPTH:	0-2'

FIELD	READING	UNITS
PID	0.5	ppm

Date/Time: 5-2-18 / 1215

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data	
SAMPLE ID NUMBER:	KLA03-SB 2-02
SAMPLE DEPTH:	5.5-6.5

FIELD	READING	UNITS
PID	0.5	ppm

Date/Time: 5-2-18 / 1220

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

COMMENTS: very high PID on both - PID malfunctioning

RELINQUISHED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME
Chris Wildt			
COMPANY Leidos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	

\* AD moisture error  
~~push~~ ~~clipped~~ - fixed

Client/Installation <b>ANG/Klamath ANGB</b>		Oversight Contractor <b>Leidos</b>		Borehole Number <b>KLA01-SB2</b>	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Driller: <i>Escade</i> ANG/Klamath ANGB		Page Page <u>1</u> of <u>2</u>	
Sizes and Type of Drilling and Sampling Equipment <i>Geoprobe 7822</i>				Borehole Location Description <i>s of road</i>	
Date/Time Started: <i>5-2-18 1310</i>			Date/Time Finished: <i>5-2-18</i>		
Overburden Thickness <i>2"</i>		Depth to Groundwater <i>7.5'</i>		Total Depth <i>10'</i>	
Sample for PFOS/PFOA Analysis Sample ID: <i>KLA01-SB2_01</i> Sample Interval: <i>0 to 2 ft</i>			Sample for PFOS/PFOA Analysis Sample ID: <i>KLA01-SB2_02</i> Sample Interval: <i>6 to 7 ft</i>		
Inspector Name <b>Chris Wildt</b>			Inspector Signature <i>[Signature]</i>		
Monitoring Well ID: <u>          </u>		Backfill Type <i>Bentonite</i>		Date Backfilled: <i>5-2-18</i>	
Latitude		Longitude		Elevation (ft)	
Notes:					
Sketch:					



Client/Installation ANG/Klamath ANGB		Borehole Number KLA01-SBZ		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5-2-18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes	
0.5	gms				
1	10YR 4/4 dark, yellowish brown silty SAND SM, dry, loose	0.7		KLA01-SBZ-01 @ 1315	
1.5					
2					
2.5					
3					
3.5	10YR 5/6 yellowish brown silty sand SM, damp, med. dense				
4					
4.5					
5					
5.5					
6					
6.5	10YR 3/4 dark yellowish brown SAND SW saturated, med. dense	0.4		KLA01-SBZ-02 1320	
7					
7.5					
8					
8.5					
9	SAA				
9.5					
10					

# SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLA01-SB2
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	1

SAC - TestAmerica Sacramento

Sample Data	
SAMPLE ID NUMBER:	KLA01-SB2-01
SAMPLE DEPTH:	0-2'

FIELD	READING	UNITS
PID	0.7	ppm

Date/Time: 5-2-18 1315

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data	
SAMPLE ID NUMBER:	KLA01-SB2-02
SAMPLE DEPTH:	0-7

FIELD	READING	UNITS
PID	0.9	ppm

Date/Time: 5-2-18 1320

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

COMMENTS:

RELINQUISHED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME
Chris Wildt			
COMPANY Leldos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	

Client/Installation <b>ANG/Klamath ANGB</b>		Oversight Contractor <b>Leidos</b>		Borehole Number <b>KLA01-SB 1</b>	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Driller: <del>Cascade</del> <i>Stratus</i> ANG/Klamath ANGB		Page Page <u>1</u> of <u>2</u>	
Sizes and Type of Drilling and Sampling Equipment <i>Geoprobe 7822</i>				Borehole Location Description <i>N of throat</i>	
Date/Time Started: <i>5-2-18 1350</i>		Date/Time Finished: <i>5-2-18 1415</i>			
Overburden Thickness <i>2"</i>	Depth to Groundwater <i>6.5'</i>		Total Depth <i>10'</i>		
Sample for PFOS/PFOA Analysis Sample ID: <i>KLA01-SB 101</i> Sample Interval: <i>0 to 2 ft</i>			Sample for PFOS/PFOA Analysis Sample ID: <i>KLA01-SB 102</i> Sample Interval: <i>5 to 6 ft</i>		
Inspector Name <b>Chris Wildt</b>			Inspector Signature <i>[Signature]</i>		
Monitoring Well ID: <i>—</i>	Backfill Type <i>Bentonite</i>		Date Backfilled: <i>5-2-18</i>		
Latitude	Longitude		Elevation (ft)		
Notes:					
Sketch:					



Client/Installation ANG/Klamath ANGB		Borehole Number KLA01-SB 1		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5 2.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	9/4/55				
1					
1.5	10YR 5/4 yellowish brown	0.1		KLA01-SB1-01	
2	SAND, SW, dry, loose			@ 1400	
2.5					
3					
3.5					
4					
4.5					
5	10YR 3/4 dark yellowish	0.1		KLA01-SB1-02	
5.5	brown silty SAND			@ 1410	
6	SM, damp, med. dense				
6.5					
7					
7.5					
8					
8.5					
9					
9.5					
10					



# SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLA01-SB1
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	1

SAC - TestAmerica Sacramento

Sample Data	Sample No. 1
SAMPLE ID NUMBER:	KLAC(-SB)-01
SAMPLE DEPTH:	0-2'

FIELD	READING	UNITS
PID	0.1	ppm
Date/Time: 5-2-18 1400		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data	Sample No. 2
SAMPLE ID NUMBER:	KLA01-SB1-02
SAMPLE DEPTH:	

FIELD	READING	UNITS
PID	0.1	ppm
Date/Time: 5-2-18 1400		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

COMMENTS:

RELINQUISHED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME
Chris Wildt			
COMPANY Leldos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	

Client/Installation <b>ANG/Klamath ANGB</b>		Oversight Contractor <b>Leidos</b>		Borehole Number <b>KLA01-SB 3</b>	
Project <b>FY17 Phase 3 Regional SI for PFOS/PFOA</b>		Driller: <b>Ceccardo</b> <b>ANG/Klamath ANGB</b>		Page <b>Page 1 of 2</b>	
Sizes and Type of Drilling and Sampling Equipment <b>Geoprobe 7822</b>				Borehole Location Description <b>E of Highway</b>	
Date/Time Started: <b>1420 5-2-18</b>			Date/Time Finished: <b>5-2-18 1440</b>		
Overburden Thickness <b>2'</b>		Depth to Groundwater <b>7'</b>		Total Depth <b>10'</b>	
Sample for PFOS/PFOA Analysis Sample ID: <b>KLA01-SB 3 01</b> Sample Interval: <b>0 to 2 ft</b>			Sample for PFOS/PFOA Analysis Sample ID: <b>KLA01-SB 3 02</b> Sample Interval: <b>to</b> ft		
Inspector Name <b>Chris Wildt</b>			Inspector Signature <i>[Signature]</i>		
Monitoring Well ID: <b>N/A</b>		Backfill Type <b>Bentonite</b>		Date Backfilled: <b>5-2-18</b>	
Latitude		Longitude		Elevation (ft)	
Notes:					
Sketch:					

Client/Installation ANG/Klamath ANGB		Borehole Number KLA01-SB3		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.2.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	grass				
1	10YR 5/2 grayish brown silty SAND SM, dry, loose	0.7		KLA01-SB3-01 @ 1425	
1.5					
2					
2.5	SAA				
3					
3.5					
4					
4.5					
5					
5.5					
6	10YR 5/6 yellowish brown silty SAND SM, wet, med. dense	0.8		KLA01-SB3-02 @ 1430	
6.5					
7					
7.5					
8					
8.5					
9					
9.5					
10					

SAA: same as above



# SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLA 01-SB3
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	1

SAC - TestAmerica Sacramento

Sample Data	Sample No. 1
SAMPLE ID NUMBER:	KLA 01-SB3-01
SAMPLE DEPTH:	0-2'

FIELD	READING	UNITS
PID	0.7	ppm
Date/Time: 5-2-18 1425		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data	Sample No. 2
SAMPLE ID NUMBER:	KLA 01-SB3-02
SAMPLE DEPTH:	5.5-6.5


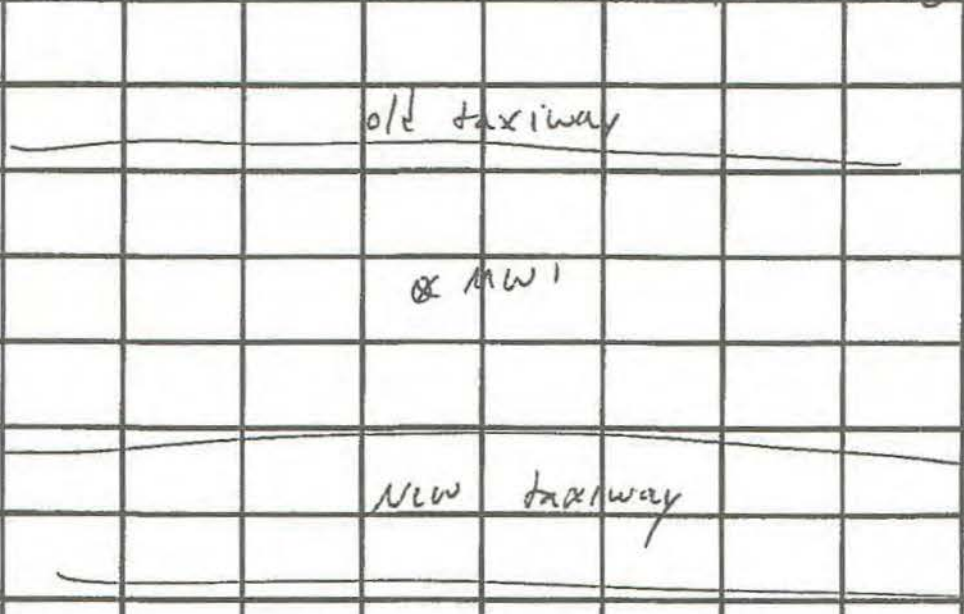
FIELD	READING	UNITS
PID	0.8	ppm
Date/Time: 5-2-18 1430		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

COMMENTS:

RELINQUISHED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME
Chris Wildt			
COMPANY Leidos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	

Client/Installation <b>ANG/Klamath ANGB</b>		Oversight Contractor <b>Leidos</b>	Borehole Number <b>MW-KLA01-01</b>	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Driller: <b>Escade Stratus</b> ANG/Klamath ANGB	Page Page <u>1</u> of <u>4</u>	
Sizes and Type of Drilling and Sampling Equipment <b>Geoprobe 7822</b> <b>Hollowstem auger</b>			Borehole Location Description <b>Between taxiways</b>	
Date/Time Started: <b>5.3.18 0800</b>		Date/Time Finished: <b>5.3.18 1030</b>		
Overburden Thickness <b>2"</b>	Depth to Groundwater <b>~ 6'</b>	Total Depth <b>~ 15.5'</b>		
Sample for PFOS/PFOA Analysis				
Sample ID: <b>MW-KLA01-0101</b>				
Inspector Name <b>Chris Wildt</b>		Inspector Signature 		
Monitoring Well ID: <b>MW-KLA01-01</b>	Backfill Type <b>Bentonite</b>	Date Backfilled: <b>5.3.18</b>		
Latitude	Longitude	Elevation (ft)		
Notes: <b>refusal @ 15', heavy sands 10.5 bags sand</b> <b>2.5 bags bentonite</b>				
Sketch:				
				



Client/Installation ANG/Klamath ANGB		Borehole Number MW-KLAC1-C1		Page Page 2 of 4	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.3.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	grass				
1					
1.5					
2					
2.5					
3	10YR 4/3 Brown clayey silty, CL dry, med. dense	0.0			
3.5					
4					
4.5					
5					
5.5					
6					
6.5	10YR 5/4 yellowish brown clayey silty CL, wet, med. dense	0.1			
7					
7.5					
8					
8.5					
9					
9.5					
10					


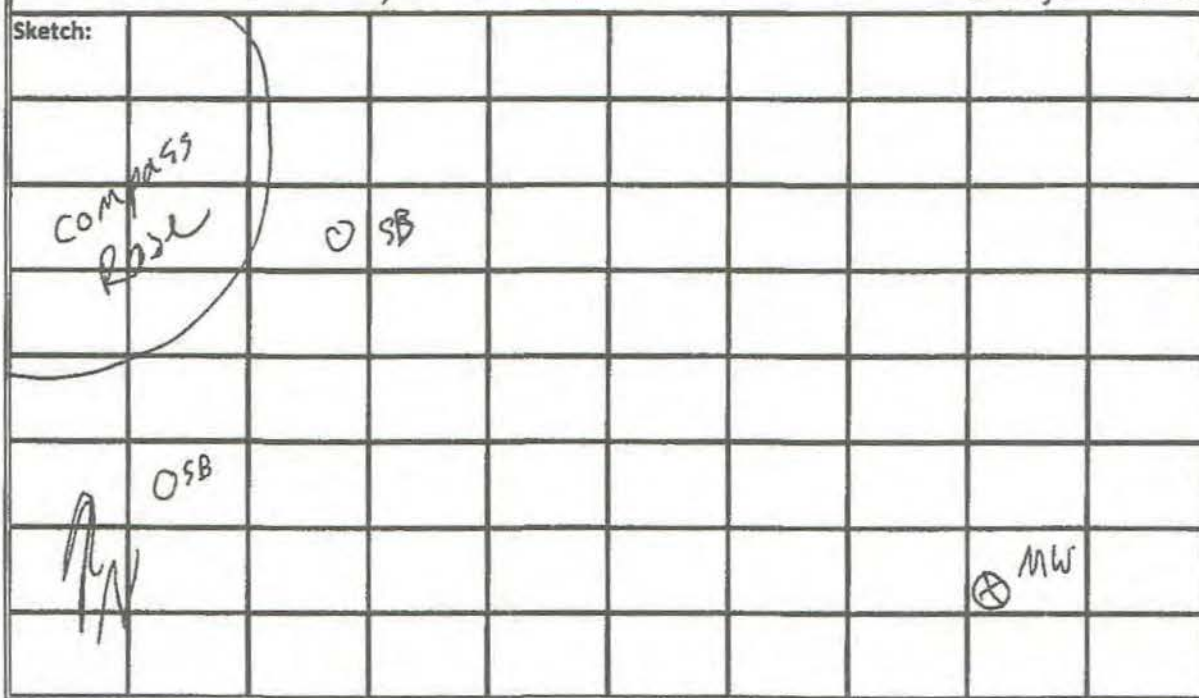
Client/Installation ANG/Klamath ANGB		Borehole Number MW-KLAC-9		Page Page 3 of 4	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.3.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
10.5	10YR 4/3 Brown SAND, SW, saturated, red, dense				
11.0					
11.5					
12.0					
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5	Heavy sands refused				
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					

MONITORING WELL			
PROJECT NAME: Phase III Regional Site Inspections for PFOS/PFOA		DELIVERY ORDER NO: 0011	
WELL NUMBER: MW RA01-01	BEGIN: 5.3.18 0800	END: 5.3.18 1070	
COORDINATES: N: E:	REFERENCE POINT:	ELEVATION:	

HOLE DIA: (IN) → 8

	DEPTH	ELEV
GROUND SURFACE	0	
BOTTOM OF SURFACE CASING	1'	
TOP OF SEAL	1'	
TOP OF FILTER PACK	4'	
TOP OF SCREEN	5'	
BOTTOM OF SCREEN	15.0'	
BOTTOM OF SUMP	15.2	
BOTTOM OF HOLE	15.5	

Client/Installation <b>ANG/Klamath ANGB</b>		Oversight Contractor <b>Leidos</b>		Borehole Number <b>MW-KLA 04-01</b>	
Project <b>FY17 Phase 3 Regional SI for PFOS/PFOA</b>		Driller: Cascade <b>ANG/Klamath ANGB</b>		Page Page <u>1</u> of <u>4</u>	
Sizes and Type of Drilling and Sampling Equipment <b>Geoprobe 7822 Hollowstem</b>				Borehole Location Description <b>Between compass rose and E taxiway</b>	
Date/Time Started: <b>5-3-18 1230</b>			Date/Time Finished: <b>5-3-18 1505</b>		
Overburden Thickness <b>1"</b>		Depth to Groundwater <b>~ 5'</b>		Total Depth	
Sample for PFOS/PFOA Analysis					
Sample ID: <b>MW-KLA 04-0101</b>					
Inspector Name <b>Chris Wildt</b>			Inspector Signature 		
Monitoring Well ID: <b>MW-KLA04-01</b>		Backfill Type <b>Bentonite</b>		Date Backfilled: <b>5-3-18</b>	
Latitude		Longitude		Elevation (ft)	
Notes: <b>moved west from original location, located in low spot, 12 bags sand 2 conc 3 bags bentonite</b>					
Sketch:					
					



Client/Installation ANG/Klamath ANGB		Borehole Number MW-KLA04-01		Page Page 2 of 4	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5-3-18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	Dark yellowish brown 10YR4/4 silty SAND, SM Damp, med. dense				0.5
1					1
1.5					1.5
2					2
2.5					2.5
3					3
3.5					3.5
4					4
4.5					4.5
5					5
5.5	SAA				5.5
6					6
6.5					6.5
7					7
7.5					7.5
8					8
8.5					8.5
9					9
9.5					9.5
10					10



Client/Installation ANG/Kamath ANGB		Borehole Number MW-KLA-401		Page Page 3 of 4	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.3.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
10.5	10YR3/6 dark yellowish brown SAND, SW, saturated, med. dense 0.1				
11.0					
11.5					
12.0					
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5	4/SG 4/1 Dark greenish gray SAND, SW, saturated, med. dense 0.0			BCE	
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					

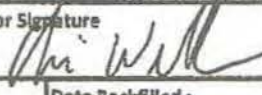
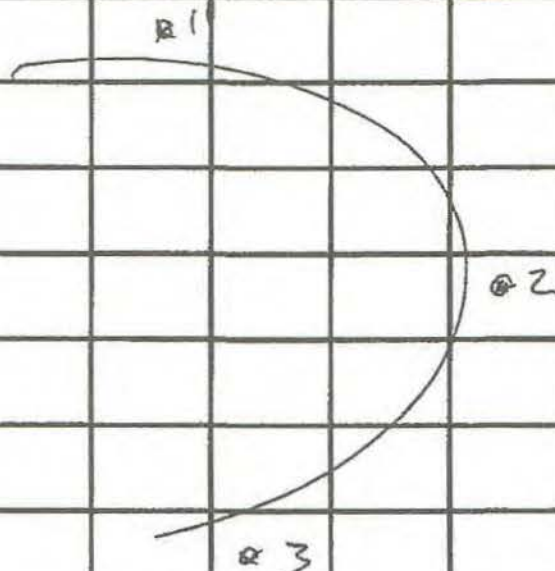
Client/Installation ANG/Klamath ANGB		Borehole Number MW-KLA__-__		Page Page <u>4</u> of <u>4</u>	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date:	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
20.5					20.5
21					21.0
21.5					21.5
22					22.0
22.5					22.5
23					23.0
23.5					23.5
24					24.0
24.5					24.5
25					25.0
25.5					25.5
26					26.0
26.5					26.5
27					27.0
27.5					27.5
28					28.0
28.5					28.5
29					29.0
29.5					29.5
30					30.0

## DELIVERY ORDER NO: 0011

END: 5-3-18

**ELEVATION:**



Client/Installation <b>ANG/Klamath ANGB</b>		Oversight Contractor <b>Leldos</b>		Borehole Number <b>KLA<sup>04</sup>-SB/</b>	
Project <b>FY17 Phase 3 Regional SI for PFOS/PFOA</b>		Driller : Cascade <b>ANG/Klamath ANGB</b>		Page Page <u>1</u> of <u>2</u>	
Sizes and Type of Drilling and Sampling Equipment <b>Geoprobe 7822</b>				Borehole Location Description <b>N borehole</b>	
Date/Time Started : <b>5-4-18 0830</b>		Date/Time Finished : <b>5-4-18 0845</b>			
Overburden Thickness <b>2'</b>		Depth to Groundwater <b>6'</b>		Total Depth <b>10'</b>	
Sample for PFOS/PFOA Analysis Sample ID: <b>KLA<sup>04</sup>-SB/ 01</b> Sample Interval: <b>0 to 2 ft</b>			Sample for PFOS/PFOA Analysis Sample ID: <b>KLA<sup>04</sup>-SB/ 02</b> Sample Interval: <b>4.5 to 5.5 ft</b>		
Inspector Name <b>Chris Wildt</b>			Inspector Signature 		
Monitoring Well ID : <b>—</b>		Backfill Type <b>Ben to note</b>		Date Backfilled : <b>5-4-18</b>	
Latitude		Longitude		Elevation (ft)	
Notes:					
Sketch:					
					



Client/Installation ANG/Klamath ANGB		Borehole Number KLA04-SB01		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.4.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	10YR4/3 Brown SILT ML dry, loose	1.4		KLA04-01-01	
1				@ 0835	
1.5					
2					
2.5	10YR4/2 dark grayish brown silty SAND, SM saturated, med. dense	1.1		KLA04-01-02	
3				@ 0840	
3.5					
4					
4.5					
5					
5.5					
6					
6.5					
7					
7.5					
8					
8.5					
9					
9.5					
10					



## SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLA04-SB01
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	

SAC - TestAmerica Sacramento

Sample Data	Sample No. 1
SAMPLE ID NUMBER:	KLA04-SB1-01
SAMPLE DEPTH:	0-2'

FIELD	READING	UNITS
PID		ppm
Date/Time: 5.4.18 0835		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data	Sample No. 2
SAMPLE ID NUMBER:	KLA04-SB1-02
SAMPLE DEPTH:	4.5-5.5


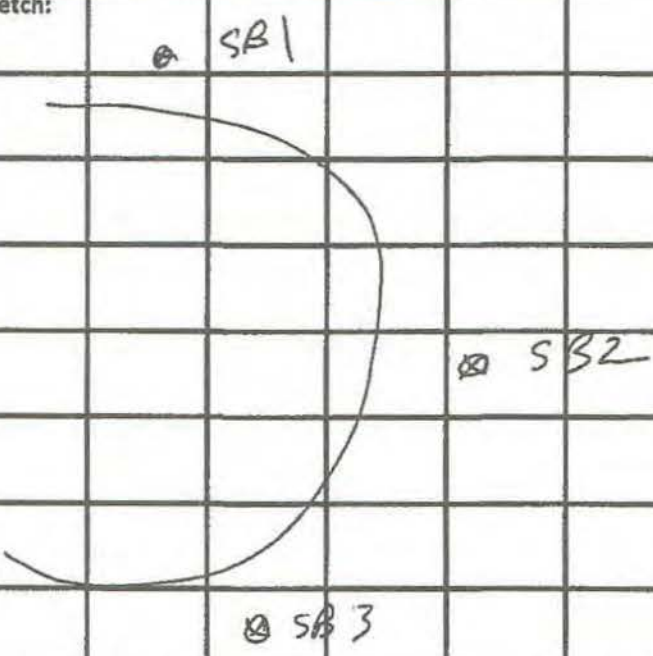
FIELD	READING	UNITS
PID		ppm
Date/Time: 5.4.18 0840		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" Insufficient volume; "NR" not required; define other code as appropriate

COMMENTS:

RELINQUISHED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME
Chris Wildt			
COMPANY Leidos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	

Client/Installation <b>ANG/Klamath ANGB</b>		Oversight Contractor <b>Leldos</b>		Borehole Number <b>KLA<del>4</del>-SB 3</b>	
Project <b>FY17 Phase 3 Regional SI for PFOS/PFOA</b>		Driller : Geseade <b>ANG/Klamath ANGB</b>		Page Page <u>1</u> of <u>2</u>	
Sizes and Type of Drilling and Sampling Equipment <b>Geoprobe 7822</b>				Borehole Location Description <b>S. Boing of KLA04</b>	
Date/Time Started : <b>5.4.18 0800</b>			Date/Time Finished : <b>5.4.18</b>		
Overburden Thickness <b>1"</b>		Depth to Groundwater <b>7'</b>		Total Depth <b>10'</b>	
Sample for PFOS/PFOA Analysis Sample ID: <b>KLA<del>4</del>-SB 3 01</b> Sample Interval: <b>0 to 2 ft</b>			Sample for PFOS/PFOA Analysis Sample ID: <b>KLA<del>4</del>-SB 3 02</b> Sample Interval: <b>5.5' to 6.5' ft</b>		
Inspector Name <b>Chris Wildt</b>			Inspector Signature 		
Monitoring Well ID : <b>N/A</b>		Backfill Type <b>Bencrete</b>		Date Backfilled : <b>5.4.18</b>	
Latitude		Longitude		Elevation (ft)	
Notes:					
Sketch:					
					

Client/Installation ANG/Klamath ANGB		Borehole Number KLA04-SB3		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.4.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	10YR 4/4 DK <sup>1/2</sup> Yellowish Brown silty SAND, SM dry, loose	1.8		KLA04-SB3-01	
1				@ 0805	
1.5					
2					
2.5	10YR 5/3 Brown sandy SILT, SM, wet, med. dense	1.0		KLA04-SB3-02	
3				@ 0810	
3.5					
4					
4.5					
5					
5.5					
6					
6.5					
7					
7.5					
8					
8.5					
9					
9.5					
10					



# SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLA <sup>04</sup> -SB <sup>3</sup>
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	1

SAC - TestAmerica Sacramento

Sample Data		Sample No. 1
SAMPLE ID NUMBER:	KLA <sup>04</sup> -SB <sup>3</sup> -01	
SAMPLE DEPTH:	0-2'	

FIELD	READING	UNITS
PID	1.8	ppm
Date/Time: 5.4.18		0805

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data		Sample No. 2
SAMPLE ID NUMBER:	KLA <sup>04</sup> -SB <sup>3</sup> -02	
SAMPLE DEPTH:	5.5-6.5	


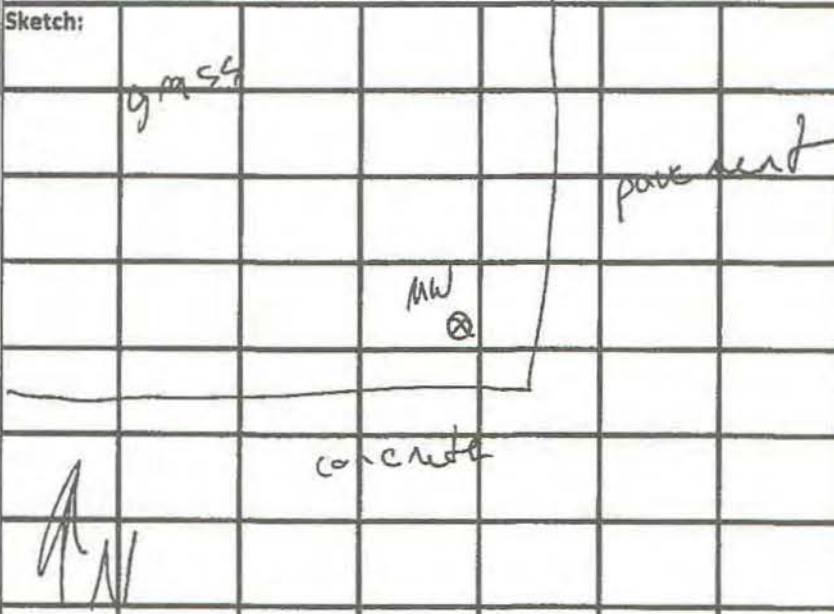
FIELD	READING	UNITS
PID	1.0	ppm
Date/Time: 5.4.18		0810

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

COMMENTS:

RELINQUISHED BY: Chris Wildt	DATE/TIME	RELINQUISHED BY:	DATE/TIME
COMPANY Leidos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	

Client/Installation <b>ANG/Klamath ANGB</b>		Oversight Contractor <b>Leidos</b>		Borehole Number <b>MW-KLAC2-01</b>	
Project <b>FY17 Phase 3 Regional SI for PFOS/PFOA</b>		Driller: <b>Cascade Stratus</b> ANG/Klamath ANGB		Page Page <u>1</u> of <u>4</u>	
Sizes and Type of Drilling and Sampling Equipment <b>Geoprobe 7822 Hollowstem auger</b>				Borehole Location Description <b>SE corner of PRC02</b>	
Date/Time Started: <b>5.4.18 0950</b>			Date/Time Finished: <b>5.4.18</b>		
Overburden Thickness <b>2"</b>		Depth to Groundwater <b>~7</b>		Total Depth <b>18.6</b>	
Sample for PFOS/PFOA Analysis					
Sample ID: <b>MW-KLAC2-01.01</b>					
Inspector Name <b>Chris Wildt</b>			Inspector Signature 		
Monitoring Well ID: <b>MW-KLAC2-01</b>		Backfill Type <b>kenbomite</b>		Date Backfilled: <b>5.4.18</b>	
Latitude		Longitude		Elevation (ft)	
Notes: <b>10.5 bags sand, 2 bags kenbomite, 1.5 cement</b>					
Sketch:					
					



Client/Installation ANG/Klamath ANGB		Borehole Number MW-KLA02-01		Page Page 2 of 4	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5-4-18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	<u>grass</u>				
1					
1.5					
2	10YR 4/3 Brown				
2.5	sandy SILT				
3	SM, dry, loose				
3.5					
4					
4.5					
5					
5.5					
6					
6.5	SAA, damp				
7					
7.5					
8					
8.5					
9					
9.5					
10					

SAA: same as above

Client/Installation ANG/Klamath ANGB		Borehole Number MW-KLACZ-01		Page Page 3 of 4	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.4.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
10.5	10YR 4/2 dark grayish brown clayey SAND CL, saturated, med. dense	0.3			
11.0					
11.5					
12.0					
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5	BOE				
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					

MONITORING WELL			
PROJECT NAME: Phase III Regional Site Inspections for PFOS/PFOA		DELIVERY ORDER NO: 0011	
WELL NUMBER: MW-KLA02-01		BEGIN: 5.4.18 0950	END: 5.4.18 1230
COORDINATES: N: E:		REFERENCE POINT: ELEVATION:	

	DEPTH	ELEV
GROUND SURFACE	0	
BOTTOM OF SURFACE CASING	1	
TOP OF SEAL	1	
TOP OF FILTER PACK	4	
TOP OF SCREEN	15	
BOTTOM OF SCREEN	15.2	
BOTTOM OF SUMP	15.2	
BOTTOM OF HOLE	15.6	

HOLE DIA: (IN) → 8" ←

Client/Installation <b>ANG/Klamath ANGB</b>		Oversight Contractor <b>Leldos</b>	Borehole Number <b>KLA<sup>04</sup>-SB<sup>2</sup></b>	
Project <b>FY17 Phase 3 Regional SI for PFOS/PFOA</b>		Driller : <b>Cascade</b> <b>ANG/Klamath ANGB</b>	Page Page <u>1</u> of <u>2</u>	
Sizes and Type of Drilling and Sampling Equipment <b>Geoprobe 7822</b>			Borehole Location Description <b>middle boring</b>	
Date/Time Started : <b>5.4.18 0815</b>		Date/Time Finished : <b>5.4.18</b>		
Overburden Thickness <b>1"</b>	Depth to Groundwater <b>6'</b>	Total Depth <b>10'</b>		
Sample for PFOS/PFOA Analysis Sample ID: <b>KLA<sup>04</sup>SB<sup>2</sup>01</b> Sample Interval: <b>0 to 2 ft</b>		Sample for PFOS/PFOA Analysis Sample ID: <b>KLA<sup>04</sup>SB<sup>2</sup>02</b> Sample Interval: <b>4.5 to 5.5 ft</b>		
Inspector Name <b>Chris Wildt</b>		Inspector Signature <i>[Signature]</i>		
Monitoring Well ID :	Backfill Type <b>Bendrite</b>	Date Backfilled : <b>5.4.18</b>		
Latitude <b>—</b>	Longitude	Elevation (ft)		
Notes:				
Sketch:				



Client/Installation ANG/Kamath ANGB		Borehole Number KLA04-SB2		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.4.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	10VR2/1 Black SILT, ML dry, med. dense	0.1		KLA04-SB2-01	
1				@ 0820	
1.5					
2					
2.5	10VR4/3 Brown sandy SILT, SM wet, med. dense	0.7		KLA04-SB2-02	
3				@ 0825	
3.5					
4					
4.5					
5					
5.5					
6					
6.5					
7					
7.5					
8					
8.5					
9					
9.5					
10					



## SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLA04-SB 2
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	

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Sample Data	Sample No. 1
SAMPLE ID NUMBER:	KLA04-SB 2-01
SAMPLE DEPTH:	0-2'

FIELD	READING	UNITS	
PID		ppm	
Date/Time: 5.4.18 0820			

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data	Sample No. 2
SAMPLE ID NUMBER:	KLA04-SB 2-02
SAMPLE DEPTH:	4.5-5.5

FIELD	READING	UNITS	
PID		ppm	
Date/Time: 5.4.18 0825			

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

COMMENTS:

RELINQUISHED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME
Chris Wildt			
COMPANY Leidos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	



Client/Installation ANG/Klamath ANGB		Borehole Number KLA02-SB1		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5-4-18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5					
1	10 YRS/2 grayish brown SAND, SW	4.0		KLA02-SB1-01 @ 1340	
1.5	dry, loose				
2					
2.5					
3					
3.5					
4					
4.5					
5	SAA, damp	0.4		KLA02-SB1-02 @ 1345	
5.5					
6					
6.5					
7					
7.5					
8	BOE				
8.5					
9					
9.5					
10					

SAA: same as above



# SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLA02-SB 1
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	

SAC - TestAmerica Sacramento

Sample Data	Sample No. 1
SAMPLE ID NUMBER:	KLA02-SB 1-01
SAMPLE DEPTH:	0-2'

FIELD	READING	UNITS
PID	4.0	ppm
Date/Time: 5-4-18 1340		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data	Sample No. 2
SAMPLE ID NUMBER:	KLA02-SB 1-02
SAMPLE DEPTH:	4.5-5.5

FIELD	READING	UNITS
PID	0.4	ppm
Date/Time: 5-4-18 1345		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

COMMENTS:

RELINQUISHED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME
Chris Wildt			
COMPANY Leidos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	

Client/Installation <b>ANG/Klamath ANGB</b>		Oversight Contractor <b>Leidos</b>		Borehole Number <b>KLA02-SB 2</b>	
Project <b>FY17 Phase 3 Regional SI for PFOS/PFOA</b>		Driller : <b>Cesada</b> <b>ANG/Klamath ANGB</b>		Page Page <u>1</u> of <u>2</u>	
Sizes and Type of Drilling and Sampling Equipment <b>Geoprobe 7822</b>				Borehole Location Description <b>Eastern Boring</b>	
Date/Time Started : <b>5.4.18 1310</b>		Date/Time Finished : <b>5.4.18 1330</b>			
Overburden Thickness <b>2"</b>		Depth to Groundwater <b>5</b>		Total Depth <b>7.5'</b>	
Sample for PFOS/PFOA Analysis Sample ID: <b>KLA02-SB 201</b> Sample Interval: <b>0 to 2 ft</b>			Sample for PFOS/PFOA Analysis Sample ID: <b>KLA01-SB 202</b> Sample Interval: <b>3.5 to 4.5 ft</b>		
Inspector Name <b>Chris Wildt</b>			Inspector Signature <i>[Signature]</i>		
Monitoring Well ID : <b>---</b>		Backfill Type <b>Berkonite</b>		Date Backfilled : <b>5.4.18</b>	
Latitude		Longitude		Elevation (ft)	
Notes:					
Sketch:					
			<b>SB1</b>		
				<b>SB2</b>	
<b>AN</b>			<b>SB3</b>		



Client/Installation ANG/Klamath ANGB		Borehole Number KLA02-SB2		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.4.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	grayish 10YR 5/2 Brown SAND, SW dry, loose	2.3		KLA02-SB2-01 @ 1320	0.5
1					1
1.5					1.5
2					2
2.5	10YR 4/4 Dark Yellowish Brown silty SAND, SM damp, med. dense	4.7		KLA02-SB2-02 @ 1325	2.5
3					3
3.5					3.5
4					4
4.5					4.5
5					5
5.5					5.5
6					6
6.5					6.5
7					7
7.5					7.5
8					8
8.5					8.5
9					9
9.5					9.5
10					10

## SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLA 02-SB 2
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	

SAC - TestAmerica Sacramento

Sample Data	Sample No. 1
SAMPLE ID NUMBER:	KLA 02-SB 2 -01
SAMPLE DEPTH:	0-2'

FIELD	READING	UNITS
PID	23	ppm
Date/Time: 5.4.18 1320		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data	Sample No. 2
SAMPLE ID NUMBER:	KLA 02-SB 2 -02
SAMPLE DEPTH:	3.5-4.5

FIELD	READING	UNITS
PID	4.7	ppm
Date/Time: 5.4.18 1325		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" Insufficient volume; "NR" not required; define other code as appropriate

COMMENTS:

RELINQUISHED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME
Chris Wildt			
COMPANY Leidos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	





Client/Installation ANG/Klamath ANGB		Borehole Number KLA02-SB3		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.4.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	gravel				
1	10YR 5/2 grayish brown SAND, SW dry, loose	1.2		KLA02-SB3-01 @ 1355	
1.5					
2					
2.5					
3	10YR 3/4 dark yellowish brown silty SAND, SM damp, med. dense	0.9		KLA02-SB3-02 @ 1400	
3.5					
4					
4.5					
5					
5.5					
6					
6.5					
7	10YR 5/2 grayish brown SAND, SW saturated, med. dense				
7.5					
8					
8.5					
9					
9.5					
10					

## SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLA02-SB3
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	

SAC - TestAmerica Sacramento

Sample Data	Sample No. 1
SAMPLE ID NUMBER:	KLA02-SB3-01
SAMPLE DEPTH:	0-2'

FIELD	READING	UNITS
PID	1.2	ppm

Date/Time: 5-4-18 1355

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data	Sample No. 2
SAMPLE ID NUMBER:	KLA02-SB3-02
SAMPLE DEPTH:	4-5'

FIELD	READING	UNITS
PID	0.9	ppm

Date/Time: 5-4-18 1400

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

COMMENTS:

RELINQUISHED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME
Chris Wildt			
COMPANY Leidos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	



Client/Installation <b>ANG/Klamath ANGB</b>		Oversight Contractor <b>Leidos</b>		Borehole Number <b>KLA05-SB 2</b>	
Project <b>FY17 Phase 3 Regional SI for PFOS/PFOA</b>		Driller: <b>Cascade</b> <i>Shadus</i> <b>ANG/Klamath ANGB</b>		Page Page <u>1</u> of <u>2</u>	
Sizes and Type of Drilling and Sampling Equipment <i>Cecropia 7827</i>				Borehole Location Description <i>W Boring</i>	
Date/Time Started: <i>5.5.18 0920</i>			Date/Time Finished: <i>5.5.18 0950</i>		
Overburden Thickness <i>2"</i>		Depth to Groundwater <i>6.5</i>		Total Depth <i>7.5</i>	
Sample for PFOS/PFOA Analysis Sample ID: <b>KLA05-SB 101</b> Sample Interval: <b>0 to 2 ft</b>			Sample for PFOS/PFOA Analysis Sample ID: <b>KLA05-SB 102</b> Sample Interval: <i>5</i> to <i>6</i> ft		
Inspector Name <b>Chris Wildt</b>			Inspector Signature <i>Chris Wildt</i>		
Monitoring Well ID: <u>          </u>		Backfill Type <i>Bentonite</i>		Date Backfilled: <i>5.5.18</i>	
Latitude		Longitude		Elevation (ft)	
Notes: <i>compact soils crushing sample tubes</i>					
Sketch:					

Client/Installation ANG/Klamath ANGB		Borehole Number KLAOS-SBZ		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.5.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5					
1	10YR 4/2 Dark grayish brown silty SAND SM, dry, loose	0.5		KLAOS-SBZ-01 @ 0930	
1.5					
2					
2.5					
3					
3.5					
4					
4.5					
5	10YR 4/4, dark yellowish brown silty SAND SM, saturated, med. dense	2.1		KLAOS-SBZ-02 @ 0940	
5.5					
6					
6.5					
7					
7.5					
8					
8.5					
9					
9.5					
10					

# SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLA05-SB 2
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	1

SAC - TestAmerica Sacramento

Sample Data	Sample No. 1
SAMPLE ID NUMBER:	KLA05-SB 2-01
SAMPLE DEPTH:	0-2'

FIELD	READING	UNITS
PID	0.5	ppm
Date/Time: 5.5.18 0930		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data	Sample No. 2
SAMPLE ID NUMBER:	KLA05-SB 2-02
SAMPLE DEPTH:	5-6'

FIELD	READING	UNITS
PID	2.1	ppm
Date/Time: 5.5.18 0940		

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

COMMENTS:

RELINQUISHED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME
Chris Wildt			
COMPANY Leidos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	



Client/Installation <b>ANG/Klamath ANGB</b>		Oversight Contractor <b>Leidos</b>		Borehole Number <b>KLA05-SB 3</b>	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Driller: <i>Caseade Systems</i> ANG/Klamath ANGB		Page Page <u>1</u> of <u>2</u>	
Size and Type of Drilling and Sampling Equipment <i>Geoprobe 7822</i>				Borehole Location Description <i>S Boring</i>	
Date/Time Started: <i>5.5.18 1000</i>		Date/Time Finished: <i>5.5.18 1030</i>			
Overburden Thickness <i>2"</i>	Depth to Groundwater <i>7</i>		Total Depth <i>8 ft</i>		
Sample for PFOS/PFOA Analysis Sample ID: <i>KLA05SB 3 01</i> Sample Interval: <i>0 to 2 ft</i>			Sample for PFOS/PFOA Analysis Sample ID: <i>KLA05SB 3 02</i> Sample Interval: <i>5.5 to 6.5 ft</i>		
Inspector Name <b>Chris Wildt</b>			Inspector Signature <i>[Signature]</i>		
Monitoring Well ID: <u>          </u>	Backfill Type <i>Bentonite</i>		Date Backfilled: <i>5.5.18</i>		
Latitude	Longitude		Elevation (ft)		
Notes:					
Sketch:					



Client/Installation ANG/Klamath AMGB		Borehole Number KLAOS-SB3		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.5.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	grass			KLAOS-SB3-01	
1	10YR 4/3 Brown	1.0		@ 1010	
1.5	silty SAND				
2	SM, dry, loose				
2.5					
3					
3.5					
4					
4.5					
5					
5.5	10YR 5/3 Brown			KLA-SB3-02	
6	silty SAND	0.4		@ 1020	
6.5	SM, damp, medium dense				
7					
7.5					
8					
8.5					
9					
9.5					
10					

Client/Installation <b>ANG/Klamath ANGB</b>		Oversight Contractor <b>Leidos</b>	Borehole Number <b>KLA05-SB 1</b>
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Driller : <i>Cascade status</i> ANG/Klamath ANGB	Page Page <u>1</u> of <u>2</u>
Sizes and Type of Drilling and Sampling Equipment <i>Geoprobe 7822</i>		Borehole Location Description <i>N boring</i>	
Date/Time Started : <i>5.5.18 0840</i>		Date/Time Finished : <i>5.5.18 0910</i>	
Overburden Thickness <i>2 ft</i>	Depth to Groundwater <i>6.5</i>	Total Depth <i>7.5</i>	
Sample for PFOS/PFOA Analysis Sample ID: <b>KLA05-SB 1 01</b> Sample Interval: <b>0 to 2 ft</b>		Sample for PFOS/PFOA Analysis Sample ID: <b>KLA05-SB 1 02</b> Sample Interval: <i>5</i> to <i>6</i> ft	
Inspector Name <b>Chris Wildt</b>		Inspector Signature <i>Chris Wildt</i>	
Monitoring Well ID : <i>_____</i>	Backfill Type <i>Bentonite</i>	Date Backfilled : <i>5.5.18</i>	
Latitude	Longitude	Elevation (ft)	
Notes:			
Sketch:			

Client/Installation ANG/Klamath ANGB		Borehole Number KLA05-SB 1		Page Page 2 of 2	
Project FY17 Phase 3 Regional SI for PFOS/PFOA		Inspector Name Chris Wildt		Date: 5.5.18	
Depth	Description of Materials	Headspace Reading	Analytical Sample Interval	Notes:	
0.5	101R 4/3 Brown silty SAND, SN dry, loose	0.7		KLA05-SBI-01 @ 0900	
1					
1.5					
2					
2.5					
3	101R 5/3 Brown SAND, SW well graded, damp loose				
3.5					
4					
4.5					
5		1.5		KLA05-SBI-02 @ 0910	
5.5					
6					
6.5					
7					
7.5					
8					
8.5					
9					
9.5					
10					



# SAMPLE COLLECTION/CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Borehole Data	
SAMPLING POINT:	KLA05-SB 1
SAMPLE LOCATION:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab
LOGBOOK NUMBER:	1

SAC - TestAmerica Sacramento

Sample Data	Sample No. 1
SAMPLE ID NUMBER:	KLA05-SB 1-01
SAMPLE DEPTH:	0-2'

FIELD	READING	UNITS
PID	0.7	ppm

Date/Time: 5-5-8 0900

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

Sample Data	Sample No. 2
SAMPLE ID NUMBER:	KLA05-SB 1-02
SAMPLE DEPTH:	5-6'

FIELD	READING	UNITS
PID	0.15	ppm

Date/Time: 5-5-8 0910

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1-4oz	plastic	PFOS/PFOA	cold, no preservative	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

COMMENTS:

RELINQUISHED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME
Chris Wildt			
COMPANY Leidos		COMPANY	
RECEIVED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
COMPANY		COMPANY	



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**APPENDIX B**

**GROUNDWATER SAMPLING LOGS**

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# GROUND WATER DEVELOPMENT LOG

WELL ID: NW-KL02-01

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

[illegible]

RECORDED BY:

(Signature)

QA CHECKED BY:

(Signature)

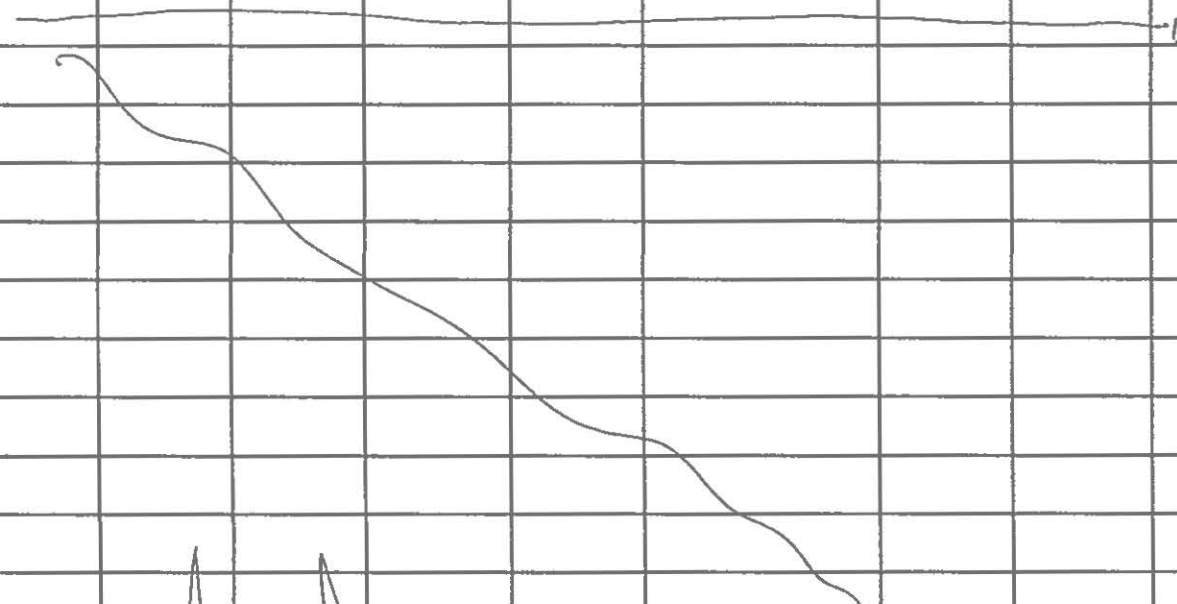


# GROUND WATER DEVELOPMENT LOG

WELL ID: MW-KLA06-01

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Date: 5.5.16	Volume Purged (liters)	PURGE RATE (gpm)	ORP (mv)	TEMP (°C)	pH (s.u.)	SpecCond __S/cm	DO (mg/L)	TURBIDITY (NTU)	DEPTH TO WATER (FT BTOC)	COMMENTS
1220	5	1 gpm	-377	12.2	8.76	0.90	12.43	—	12.53	
1225	10	"	-250	12.6	8.01	0.89	12.41	—	Dry	
1230	12	"	-187	14.0	8.62	0.90	10.16	—	12.15	Very slow recharge
1245	13	0.5	-180	12.9	8.51	0.97	10.79	—	Dry	
1330									Dry	

RECORDED BY:

(Signature)

QA CHECKED BY:

(Signature)

# GROUND WATER DEVELOPMENT LOG

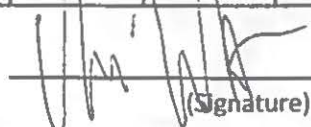
WELL ID: MW-KLAD4-01

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Date: 5/5/18 TIME	Volume Purged (liters)	PURGE RATE (ML/min)	ORP (mv)	TEMP (°C)	pH (s.u.)	SpecCond <u>  </u> S/cm	DO (mg/L)	TURBIDITY (NTU)	DEPTH TO WATER (FT BTOC)	COMMENTS
1340	0.5	0.5	-7	14.2	10.3	1.01	11.57	~	2.60	
1345	2.5	0.5	68	12.6	9.78	1.16	12.30	-5.0	4.34	
1350	5.0	0.5	34	12.3	9.74	1.23	11.83	-5.0	4.42	
1355	7.5	1.0	<del>81</del> -43	12.8	9.76	1.34	10.07	-5.0	5.05	
1400	12.5	1.0	-15	12.1	9.46	1.37	5.45	-5.0	5.89	
1405	17.5	1.0	29	12.9	9.51	1.49	6.87	-5.0	6.15	
1410	22.5	1.0	14	13.0	9.51	1.36	4.72	-5.0	6.80	
1415	27.5	1.0	-3	13.0	9.72	1.35	11.77	-5.0	6.95	
1420	32.5	1.0	37	12.2	9.59	1.37	12.35	-5.0	7.20	
1425	37.5	1.0	36	12.3	9.67	1.40	12.37	-5.0	7.50	
1430	42.5	1.0	-21	11.9	9.44	1.40	4.88	-5.0	8.05	
1435	47.5	1.0	12	11.9	9.51	1.40	7.29	-5.0	8.15	
1440	52.5	1.0	14	11.8	9.50	1.40	7.06	-5.0	8.35	
1445	57.5	1.0	-12	11.5	9.42	1.40	6.25	-5.0	8.89	
						MW				End purge due to scheduling

RECORDED BY:

  
(Signature)

QA CHECKED BY:

(Signature)

# GROUND WATER DEVELOPMENT LOG

WELL ID: MW-1CLAB3-01

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Date: <u>5-5-18</u>	Volume Purged (liters)	PURGE RATE (mL/min)	ORP (mv)	TEMP (°C)	pH (s.u.)	SpecCond <u>µS/cm</u>	DO (mg/L)	TURBIDITY (NTU)	DEPTH TO WATER (FT BTOC)	COMMENTS
1600	0.5	1 gpm	-385	13.8	9.12	1.45	5.07	-5.0	7.60	
1605	5	1 gpm	-340	12.4	8.85	1.19	7.82	-5.0	8.35	
1610	10	"	—	—	—	1.08	—	—	—	
1620	20	"	-203	12.3	8.68	1.08	10.80	—	9.50	
1625	25	"	-185	12.9	8.98	1.07	12.90	—	9.95	
1630	30	"	-92	13.4	8.78	1.08	8.64	—	10.09	
1635	35	"	-51	13.3	8.80	1.07	—	—	10.20	
1640	40	"	-140	12.5	8.55	1.08	3.92	—	10.30	
1645	45	"	-135	12.1	8.61	1.09	3.85	—	10.35	
1650	50	"	-140	12.9	8.71	1.10	3.81	—	10.41	
1700	60	"	-55	14.0	8.87	1.08	13.14	—	10.48	
1705	65	"	-38	13.0	8.81	1.05	12.63	—	10.51	
1710	70	"	-40	13.1	8.82	1.10	12.61	—	10.60	
1715	75	"	-41	13.0	8.79	1.09	12.60	—	10.65	

RECORDED BY:

(Signature)

QA CHECKED BY:

(Signature)



# GROUND WATER DEVELOPMENT LOG

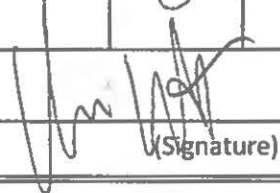
WELL ID: MW-KLA01-01

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Date: <u>5-5-18</u> TIME	Volume Purged (liters)	PURGE RATE (ml/min)	ORP (mv)	TEMP (°C)	pH (s.u.)	SpecCond <u>µS/cm</u>	DO (mg/L)	TURBIDITY (NTU)	DEPTH TO WATER (FT BTOC)	COMMENTS
1500	0.5	1.0	79	13.5	8.89	4.41	11.05	—	6.01	
1505	5.0	1.0	-3	12.6	8.39	5.26	9.37	—	8.30	
1510	10.0	1.0	-4	12.5	8.16	6.74	11.35	-5.0	9.28	
1515	15.0	1.0	-5	12.4	8.03	7.98	12.36	-5.0	9.80	
1520	20.0	1.0	-33	12.5	7.81	9.96	12.08	-5.0	10.38	
1525	25.0	1.0	-16	12.6	7.80	19.4	11.59	-5.0	10.65	
1530	30.0	1.0	-6	12.6	7.73	20.3	8.03	-5.0	10.80	
1535	35.0	1.0	-14	12.6	7.71	20.8	6.81	680	11.50	
1540	40.0	1.0	-12	12.6	7.78	20.1	6.91	390	11.80	
1545	45.0	1.0	-13	12.5	7.75	20.3	6.95	200	12.01	
1550	50.0	1.0	-11	12.4	7.75	20.4	6.91	190	12.50	
1555	55	1.0	-10	12.5	7.73	20.3	6.94	110	12.89	

RECORDED BY:

  
(Signature)

QA CHECKED BY:

(Signature)



## GROUND WATER LOW-FLOW PURGE LOG

WELL ID: MWIS 73-03-PRLOS

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

[illegible]

RECORDED BY:

(Signature)

QA CHECKED BY:

(Signature)

# GROUND WATER LOW-FLOW PURGE SHEET

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5-6-18

TIME: 0830

WELL ID NUMBER: MW-573-03-PRL05

WELL LOCATION: Bldg 573

DEPTH OF SCREENED INTERVAL (to notch): 5 ft. to 15<sup>2</sup> ft.

INNER CASING: TYPE: PVC ID: 2"

WATER QUALITY METER ID: 82551

WATER LEVEL INDICATOR ID: 82662

PUMP ID: 83008

TURBIDITY ID: 82551

PID ID: 81470

DEPTH TO WATER: 5.22 FT FROM MEASURE POINT

DEPTH TO TOP OF SCREEN: ~5 FT FROM MEASURE POINT

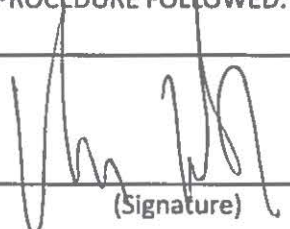
DEPTH TO PUMP INTAKE: 10 FT FROM MEASURE POINT

PURGE/SAMPLE METHOD: ☐ Monsoon ☒ Peristaltic Pump ☐ Other Pump Type \_\_\_\_\_

PURGE START TIME: 0840 PURGE END TIME: 0910

TOTAL VOLUME PURGED: 3.0 (liters)

S&A PLAN SAMPLING PROCEDURE FOLLOWED: ☒ Yes ☐ No IF NO, WHY WAS A DEVIATION NECESSARY: \_\_\_\_\_

RECORDED BY:   
(Signature)

QA CHECKED BY: \_\_\_\_\_  
(Signature)

# SAMPLE COLLECTION

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5-6-18

TIME: ~~0600~~ 0915

Sample Location: Building 573

SAMPLE ID NUMBER:	MW-573-03-PRL05-01
SAMPLE LOCATION:	MW-573-03-PRL05
SAMPLE DEPTH:	10'
SAMPLING POINT:	
SAMPLE MEDIA:	GW
SAMPLE TYPE	Grab

FIELD	READING	UNITS	H&S (Y/N)
Conductivity	1.29	S/cm	
DO	0.23	mg/L	
ORP	115	mV	
Temperature	15.9	degrees, C	
Turbidity	5.1	NTUs	
pH	8.69	S.U.	
PID	0.1	ppm	

COMMENTS: +MS/MSD

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
2 ea - 250-mL polypropylene with polypropylene cap		PFOS/PFOA	Cool to 4°C ±2°	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

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TRIP BLANK ID: \_\_\_\_\_

# GROUND WATER LOW-FLOW PURGE SHEET

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5-6-18

TIME: 1030

WELL ID NUMBER: MW-572-02-PRL05

WELL LOCATION: Bldg 573

DEPTH OF SCREENED INTERVAL (toc notch): 9 ft. to 15<sup>2</sup> ft.

INNER CASING: TYPE: PVC ID: 2"

WATER QUALITY METER ID: 82551

WATER LEVEL INDICATOR ID: 82662

PUMP ID: 83008

TURBIDITY ID: 82551

PID ID: 81470

DEPTH TO WATER: 4.65 FT FROM MEASURE POINT

DEPTH TO TOP OF SCREEN: 5 FT FROM MEASURE POINT

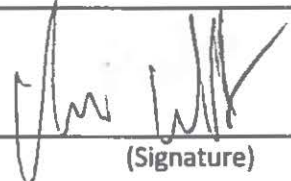
DEPTH TO PUMP INTAKE: 10 FT FROM MEASURE POINT

PURGE/SAMPLE METHOD: ☐ Monsoon ☒ Peristaltic Pump ☐ Other Pump Type \_\_\_\_\_

PURGE START TIME: 1000 PURGE END TIME: 1025

TOTAL VOLUME PURGED: \_\_\_\_\_ (liters)

S&A PLAN SAMPLING PROCEDURE FOLLOWED: ☒ Yes ☐ No IF NO, WHY WAS A DEVIATION NECESSARY: \_\_\_\_\_

RECORDED BY:   
(Signature)

QA CHECKED BY: \_\_\_\_\_  
(Signature)



# GROUND WATER LOW-FLOW PURGE LOG

WELL ID: MIN 572-02-PRL05

**PROJECT NAME:** Kingsley Field ANGB

DELIVERY ORDER 0011

[illegible]

RECORDED BY:

(Signature)

QA CHECKED BY:

(Signature)

# SAMPLE COLLECTION

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5.6.18

TIME: 1030

Sample Location: Building 573

SAMPLE ID NUMBER:	MW-572-02-PRL05-01
SAMPLE LOCATION:	MW-572-02-PRL05
SAMPLE DEPTH:	10'
SAMPLING POINT:	
SAMPLE MEDIA:	GW
SAMPLE TYPE	Grab

FIELD	READING	UNITS	H&S (Y/N)
Conductivity	0.92	__S/cm	
DO	8.89	mg/L	
ORP	168	mV	
Temperature	15.8	degrees, C	
Turbidity	43.5	NTUs	
pH	9.51	S.U.	
PID	0.1	ppm	

COMMENTS: + Duplicate on this well

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
2 ea - 250-mL polypropylene with polypropylene cap		PFOS/PFOA	Cool to 4°C ±2°	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

SAC - TestAmerica Sacramento

TRIP BLANK ID: \_\_\_\_\_

# SAMPLE COLLECTION SEDIMENT/SURFACE WATER

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5.6.18

TIME: 1130

Sample Location: North end fall

SAMPLE ID NUMBER:	KLA07-SD1-01
SAMPLE LOCATION:	KLA07-SD1
SAMPLE DEPTH:	Surface
SAMPLING POINT:	
SAMPLE MEDIA:	Soil
SAMPLE TYPE	Grab

FIELD	READING	UNITS	H&S (Y/N)
Conductivity		S/cm	
DO		mg/L	
ORP		mV	
Temperature		degrees, C	
Turbidity		NTUs	
pH		S.U.	
PID		ppm	

COMMENTS: + Duplicate

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
2 ea - 250-mL polypropylene with polypropylene cap		PFOS/PFOA	Cool to 4°C ±2°	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

SAC - TestAmerica Sacramento

TRIP BLANK ID: \_\_\_\_\_

# GROUND WATER LOW-FLOW PURGE SHEET

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5.6.18

TIME: 1140

WELL ID NUMBER: MW-KLA02-01

WELL LOCATION: SE corner of PRLO2

DEPTH OF SCREENED INTERVAL (toc notch): 5 ft. to 15 ft.

INNER CASING: TYPE: PVC ID: 2 inches

WATER QUALITY METER ID: 82551

WATER LEVEL INDICATOR ID: 82662

PUMP ID: 83008

TURBIDITY ID: 82551

PID ID: 81470

DEPTH TO WATER: 3.89 FT FROM MEASURE POINT

DEPTH TO TOP OF SCREEN: 5 FT FROM MEASURE POINT

DEPTH TO PUMP INTAKE: 10 FT FROM MEASURE POINT

PURGE/SAMPLE METHOD: ☐ Monsoon ☒ Peristaltic Pump ☐ Other Pump Type \_\_\_\_\_

PURGE START TIME: 1140 PURGE END TIME: 1205

TOTAL VOLUME PURGED: 3.07 (liters)

S&A PLAN SAMPLING PROCEDURE FOLLOWED: ☒ Yes ☐ No IF NO, WHY WAS A DEVIATION NECESSARY: \_\_\_\_\_

RECORDED BY:   
(Signature)

QA CHECKED BY: \_\_\_\_\_  
(Signature)



## GROUND WATER LOW-FLOW PURGE LOG

WELL ID: MW-KLAG2-01

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

[illegible]

RECORDED BY:

(Signature)

QA CHECKED BY:

(Signature)

# SAMPLE COLLECTION

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5-6-18

TIME: 1205

Sample Location: MW-KLA02-01

SAMPLE ID NUMBER:	MW-KLA02-01-01
SAMPLE LOCATION:	MW-KLA02-01
SAMPLE DEPTH:	10'
SAMPLING POINT:	
SAMPLE MEDIA:	GW
SAMPLE TYPE	Grab

FIELD	READING	UNITS	H&S (Y/N)
Conductivity	4.31	S/cm	
DO	2.02	mg/L	
ORP	177	mV	
Temperature	16.0	degrees, C	
Turbidity	332.0	NTUs	
pH	9.08	S.U.	
PID	0.0	ppm	

COMMENTS:

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
2 ea - 250-mL polypropylene with polypropylene cap		PFOS/PFOA	Cool to 4°C ±2°	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

SAC - TestAmerica Sacramento

TRIP BLANK ID:

# GROUND WATER LOW-FLOW PURGE SHEET

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5-6-18

TIME: 1241

WELL ID NUMBER: MW-KLA<sup>OG</sup>-01

WELL LOCATION: SE corner of PRLOG

DEPTH OF SCREENED INTERVAL (toc notch): 5 ft. to 15 ft.

INNER CASING: TYPE: PVC ID: 2 inches

WATER QUALITY METER ID: 82SS1

WATER LEVEL INDICATOR ID: 82GG2

PUMP ID: 83008

TURBIDITY ID: 82SS1

PID ID: 81470

DEPTH TO WATER: 8.24 FT FROM MEASURE POINT

DEPTH TO TOP OF SCREEN: 5 FT FROM MEASURE POINT

DEPTH TO PUMP INTAKE: 10 FT FROM MEASURE POINT

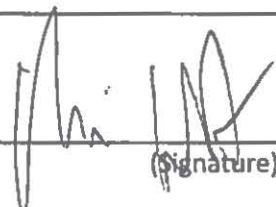
PURGE/SAMPLE METHOD: ☐ Monsoon ☒ Peristaltic Pump ☐ Other Pump Type \_\_\_\_\_

PURGE START TIME: 1245

PURGE END TIME: 1300

TOTAL VOLUME PURGED: 2.0 (liters)

S&A PLAN SAMPLING PROCEDURE FOLLOWED: ☒ Yes ☐ No IF NO, WHY WAS A DEVIATION NECESSARY: \_\_\_\_\_

RECORDED BY:   
(Signature)

QA CHECKED BY: \_\_\_\_\_  
(Signature)

# SAMPLE COLLECTION

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5-6-18

TIME: 1315

Sample Location: MW-KLAG-01

SAMPLE ID NUMBER:	MW-KLAG-01-01
SAMPLE LOCATION:	MW-KLAG-01
SAMPLE DEPTH:	10'
SAMPLING POINT:	
SAMPLE MEDIA:	GW
SAMPLE TYPE	Grab

FIELD	READING	UNITS	H&S (Y/N)
Conductivity	0.99	µS/cm	
DO	9.61	mg/L	
ORP	-167	mV	
Temperature	14.2	degrees, C	
Turbidity	150.0	NTUs	
pH	8.25	S.U.	
PID	0.0	ppm	

COMMENTS:

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
2 ea - 250-mL polypropylene with polypropylene cap		PFOS/PFOA	Cool to 4°C ±2°	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

SAC - TestAmerica Sacramento

TRIP BLANK ID: \_\_\_\_\_



# GROUND WATER LOW-FLOW PURGE LOG

WELL ID: MW-KLAGG-01

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

[illegible]RECORDED BY: W.M.N.

(Signature)

QA CHECKED BY: \_\_\_\_\_

(Signature)

# GROUND WATER LOW-FLOW PURGE SHEET

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5-6-18

TIME: 1340

WELL ID NUMBER: MW-KLACH-01

WELL LOCATION: SU corner PRLO4

DEPTH OF SCREENED INTERVAL (toc notch): 5 ft. to 10 ft.

INNER CASING: TYPE: PVC ID: 2 inches

WATER QUALITY METER ID: 82SS1

WATER LEVEL INDICATOR ID: 82662

PUMP ID: 83008

TURBIDITY ID: 82SS1

PID ID: 81470

DEPTH TO WATER: 2.55 FT FROM MEASURE POINT

DEPTH TO TOP OF SCREEN: 5 FT FROM MEASURE POINT

DEPTH TO PUMP INTAKE: 10 FT FROM MEASURE POINT

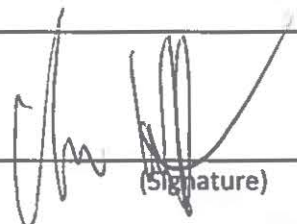
PURGE/SAMPLE METHOD: ☐ Monsoon ☒ Peristaltic Pump ☐ Other Pump Type \_\_\_\_\_

PURGE START TIME: 1340

PURGE END TIME: 1410

TOTAL VOLUME PURGED: 3.0 (liters)

S&A PLAN SAMPLING PROCEDURE FOLLOWED: ☒ Yes ☐ No IF NO, WHY WAS A DEVIATION NECESSARY: \_\_\_\_\_

RECORDED BY:   
(Signature)

QA CHECKED BY: \_\_\_\_\_  
(Signature)

## GROUND WATER LOW-FLOW PURGE LOG

WELL ID: MW-KLA04-01

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

[illegible]

RECORDED BY:

(Signature)

QA CHECKED BY:

(Signature)

# SAMPLE COLLECTION

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5-6-18

TIME: 1415

Sample Location: PR204

SAMPLE ID NUMBER:	MW-KLA <sup>04</sup> -01-01
SAMPLE LOCATION:	MW-KLA <sup>04</sup> -01
SAMPLE DEPTH:	10'
SAMPLING POINT:	
SAMPLE MEDIA:	GW
SAMPLE TYPE	Grab

FIELD	READING	UNITS	H&S (Y/N)
Conductivity	1.63	µS/cm	
DO	0.31	mg/L	
ORP	-159	mV	
Temperature	15.6	degrees, C	
Turbidity	292.0	NTUs	
pH	9.56	S.U.	
PID	0-1	ppm	

COMMENTS:

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
2 ea - 250-mL polypropylene with polypropylene cap		PFOS/PFOA	Cool to 4°C ±2°	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

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TRIP BLANK ID: \_\_\_\_\_



# GROUND WATER LOW-FLOW PURGE SHEET

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5-6-18

TIME: 1430

WELL ID NUMBER: MW-KLA01-01

WELL LOCATION: SE Corner PKL01

DEPTH OF SCREENED INTERVAL (toc notch): 5 ft. to 10 ft.

INNER CASING: TYPE: PVC ID: 2 inches

WATER QUALITY METER ID: 82551

WATER LEVEL INDICATOR ID: 82662

PUMP ID: 83008

TURBIDITY ID: 82551

PID ID: 81470

DEPTH TO WATER: 4.32 FT FROM MEASURE POINT

DEPTH TO TOP OF SCREEN: 5 FT FROM MEASURE POINT

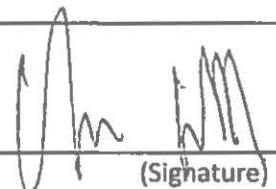
DEPTH TO PUMP INTAKE: 10 FT FROM MEASURE POINT

PURGE/SAMPLE METHOD: ☐ Monsoon ☒ Peristaltic Pump ☐ Other Pump Type \_\_\_\_\_

PURGE START TIME: 1430 PURGE END TIME: 1445

TOTAL VOLUME PURGED: 1.5 (liters)

S&A PLAN SAMPLING PROCEDURE FOLLOWED: ☒ Yes ☐ No IF NO, WHY WAS A DEVIATION NECESSARY: \_\_\_\_\_

RECORDED BY:  (Signature)

QA CHECKED BY: \_\_\_\_\_ (Signature)

# SAMPLE COLLECTION

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5-6-18

TIME: 1450

Sample Location: PRLO1

SAMPLE ID NUMBER:	MW-KLA01-01-01
SAMPLE LOCATION:	MW-KLA01-01
SAMPLE DEPTH:	10'
SAMPLING POINT:	mid point of screen
SAMPLE MEDIA:	GW
SAMPLE TYPE	Grab

FIELD	READING	UNITS	H&S (Y/N)
Conductivity	19.6	µS/cm	
DO	8.16	mg/L	
ORP	128	mV	
Temperature	15.8	degrees, C	
Turbidity	67.7	NTUs	
pH	8.00	S.U.	
PID	0.1	ppm	

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
2 ea - 250-mL polypropylene with polypropylene cap		PFOS/PFOA	Cool to 4°C ±2°	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

SAC - TestAmerica Sacramento

TRIP BLANK ID: \_\_\_\_\_

## GROUND WATER LOW-FLOW PURGE LOG

WELL ID: MW-KLA01-01

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

[illegible]

RECORDED BY:

(Signature)

QA CHECKED BY:

(Signature)

# GROUND WATER LOW-FLOW PURGE SHEET

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5.6.18

TIME: 1500

WELL ID NUMBER: MW-KLA03-01

WELL LOCATION: SE corner of PRL03

DEPTH OF SCREENED INTERVAL (to notch): 5 ft. to 10 ft.

INNER CASING: TYPE: PVC ID: 2 inches

WATER QUALITY METER ID: 82551

WATER LEVEL INDICATOR ID: 82662

PUMP ID: 83008

TURBIDITY ID: 82591

PID ID: 81470

DEPTH TO WATER: 6.25 FT FROM MEASURE POINT

DEPTH TO TOP OF SCREEN: 5 FT FROM MEASURE POINT

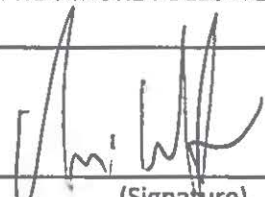
DEPTH TO PUMP INTAKE: 10 FT FROM MEASURE POINT

PURGE/SAMPLE METHOD: ☐ Monsoon ☒ Peristaltic Pump ☐ Other Pump Type \_\_\_\_\_

PURGE START TIME: 1505 PURGE END TIME: 1550

TOTAL VOLUME PURGED: 4.5 (liters)

S&A PLAN SAMPLING PROCEDURE FOLLOWED: ☒ Yes ☐ No IF NO, WHY WAS A DEVIATION NECESSARY: \_\_\_\_\_

RECORDED BY:   
(Signature)

QA CHECKED BY: \_\_\_\_\_  
(Signature)



# GROUND WATER LOW-FLOW PURGE LOG

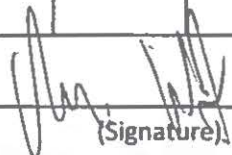
WELL ID: MW-KLA03-01

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

Date: 9-6-18 TIME	Volume Purged (liters)	PURGE RATE (mL/min)	ORP (mv)	TEMP (°C)	pH (s.u.)	SpecCond $\mu$ S/cm	DO (mg/L)	TURBIDITY (NTU)	DEPTH TO WATER (FT BTWC)	COMMENTS
1505	—	100	-204	16.3	8.92	1.44	13.55	—	6.28	turb over
1510	0.5	100	-237	16.2	8.81	1.26	3.48	—	6.29	
1515	1.0	"	-243	15.9	8.74	1.23	1.76	475.0	6.29	
1520	1.5	"	-253	15.1	8.67	1.20	0.74	474.0	6.30	
1525	2.0	"	-252	15.2	8.65	1.19	0.49	475.0	6.31	
1530	2.5	"	-249	15.1	8.63	1.19	0.28	472.0	6.32	
1535	3.0	"	-249	15.2	8.61	1.17	0.20	473.0	6.33	
1540	3.5	"	-234	14.9	8.61	1.18	0.12	470.0	6.34	
1545	4.0	"	-243	14.9	8.61	1.18	0.11	471.0	6.34	
1550	4.5	"	-245	14.7	8.61	1.18	0.10	472.0	6.35	

RECORDED BY:

  
(Signature)

QA CHECKED BY:

(Signature)

# SAMPLE COLLECTION

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5.6.18

TIME: 1555

Sample Location: SE Corner PRLU3

SAMPLE ID NUMBER:	MW-KLA <del>05</del> <sup>S</sup> -01-01
SAMPLE LOCATION:	MW-KLA <del>05</del> <sup>S</sup> -01
SAMPLE DEPTH:	10'
SAMPLING POINT:	
SAMPLE MEDIA:	GW
SAMPLE TYPE	Grab

FIELD	READING	UNITS	H&S (Y/N)
Conductivity	1.18	<del>u</del> S/cm	
DO	0.09	mg/L	
ORP	-247	mV	
Temperature	14.3	degrees, C	
Turbidity	471.0	NTUs	
pH	8.62	S.U.	
PID	0.0	ppm	

COMMENTS:

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
2 ea - 250-mL polypropylene with polypropylene cap		PFOS/PFOA	Cool to 4°C ±2°	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

SAC - TestAmerica Sacramento

TRIP BLANK ID: \_\_\_\_\_

# SAMPLE COLLECTION SEDIMENT/SURFACE WATER

PROJECT NAME: Kingsley Field ANGB

DELIVERY ORDER 0011

DATE: 5.7.18

TIME: 0830

Sample Location: South Outfall

SAMPLE ID NUMBER:	KLA08-SW1-01
SAMPLE LOCATION:	KLA08-SW1
SAMPLE DEPTH:	
SAMPLING POINT:	
SAMPLE MEDIA:	
SAMPLE TYPE	Grab

FIELD	READING	UNITS	H&S (Y/N)
Conductivity	0.397	S/cm	
DO	6.62	mg/L	
ORP	-27	mV	
Temperature	13.2	degrees, C	
Turbidity	over	NTUs	
pH	8.80	S.U.	
PID	0.1	ppm	

COMMENTS: collected from approx 5" standing water in storm drain using a 4' bailer

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATION TYPE (TYPE/VOL)	LABORATORY	COLLECTION CODE**
2 ea - 250-mL polypropylene with polypropylene cap		PFOS/PFOA	Cool to 4°C ±2°	SAC	

\*\* "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate

SAC - TestAmerica Sacramento

TRIP BLANK ID: \_\_\_\_\_

**APPENDIX C**

**SURVEY REPORT FOR NEW MONITORING WELLS**



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1045-18 LEIDOS KINGSLEY FIELD WELL LOCATIONS (5-8-18)

MW-KLA01-01		WELL CAP	RIM	GROUND
SPCS, OR 3062, USFT, NAD83	NORTHING	181,574.9		
	EASTING	4,584,702.1		
WGS84 (DD)	LATITUDE	42.158031		
	LONGITUDE	-121.741191		
NAVD88	ELEVATION (FT)		4,088.11	4,088.01
MW-KLA02-01		WELL CAP	RIM	GROUND
SPCS, OR 3062, USFT, NAD83	NORTHING	185,270.4		
	EASTING	4,584,293.7		
WGS84 (DD)	LATITUDE	42.168153		
	LONGITUDE	-121.742899		
NAVD88	ELEVATION (FT)		4,088.40	4,088.41
MW-KLA03-01		WELL CAP	RIM	GROUND
SPCS, OR 3062, USFT, NAD83	NORTHING	181,398.1		
	EASTING	4,584,309.8		
WGS84 (DD)	LATITUDE	42.157530		
	LONGITUDE	-121.742628		
NAVD88	ELEVATION (FT)		4,089.72	4,089.66
MW-KLA04-01		WELL CAP	RIM	GROUND
SPCS, OR 3062, USFT, NAD83	NORTHING	182,222.0		
	EASTING	4,584,912.3		
WGS84 (DD)	LATITUDE	42.159815		
	LONGITUDE	-121.740451		
NAVD88	ELEVATION (FT)		4,086.43	4,086.39
MW-KLA06-01		WELL CAP	RIM	GROUND
SPCS, OR 3062, USFT, NAD83	NORTHING	183,564.5		
	EASTING	4,583,923.5		
WGS84 (DD)	LATITUDE	42.163458		
	LONGITUDE	-121.744171		
NAVD88	ELEVATION (FT)		4,089.08	4,088.98

VERTICAL ELEVATION BENCHMARK

PID: NY0350 NGS Datasheet	NORTHING	185,913.9851
	EASTING	4,585,944.5715
	ELEVATION (FT)	4,089.17

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

*Michelle McBride*

OREGON  
SEPTEMBER 13, 2016  
MICHELLE McBRIDE  
91128PLS

EXPIRATION DATE: 12/31/18

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## **APPENDIX D**

### **DATA VALIDATION REPORTS**



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# LEIDOS

## Laboratory Data Verification Checklist

**Project:** Kingsley Page 1 of 3

**SDG No:** J39023 **Analyte Group:** PFCs

**Sample Matrix:** Water/Soil

**EDD (Y/N):** \_\_\_\_\_

**Disposition of Data Package:** \_\_\_\_\_

**NCR No. (if applicable):** \_\_\_\_\_

### 1. Case Narrative

Read SDG Case Narrative	Y
Check Laboratory sample ID vs. Project sample ID lists	Y
Check that discussion covers each analytical type included in the SDG	Y
Check for identified nonconforming items (e.g., missed holding times, etc.)	Y

### 2. Chain-of-Custody (COC)

Check COC sample collection, shipping, and receiving dates	Y
Check that COC signature blocks are complete	Y
Check COC project sample IDs vs. Lab IDs and Result Form IDs	Y
Match COC requested analyses with Case Narrative and with data package content (Result Forms)	Y

### 3. Analytical Results Form

Verify that a Result Form is present for each sample and analysis	Y
On each Result Form check:	
SDG No.	Y
Sample ID	Y
Lab ID	Y
Date Collected	Y
Date Extracted	Y
Date Analyzed	Y
Result Matrix	Y
Result Units	Y

## 4. Project Verification

Check project analyte list vs. analytes reported	Y
Check project requested methods vs. analytical methods performed	Y
Check analyte reporting levels vs. project reporting level goals	Y

## 5. Analytical Quality Control Information

Check for surrogate recovery results (e.g., org. form II)	Y
Check for LCS results (e.g., org. form III, inorg. form XII)	Y
Check for method blank results ( e.g., org. form IV, inorg. form III)	Y
Check for MS/MSD results (e.g., inorg. form V)	Y
Check for laboratory duplicate results (e.g., inorg. form VI)	NA
Check for Method Calibration and Run Documentation	
organic: instrument performance check	Y
initial calibration data	Y
continuing calibration data	Y
internal standard areas	Y
internal standard retention times	Y
sample clean-up documentation (org. forms V through X)	Y
metal: initial calibration data	
continuing calibration data	
method detection limits	
method linear range	
sample run sequence	
(inorg. forms II, IV, and VIII through XIV)	
other: initial calibration data	
continuing calibration data	
method detection limits	
sample run sequence	

## 6. Incorrect Information

Identify missing items or incorrect information (i.e., missing forms, unsigned forms, incorrect sample IDs, etc.)

Contact the laboratory or project personnel to obtain missing information or correct information

Document corrections below:

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## 7. Nonconforming Items

Document all nonconforming items that can not be resolved above in a Non-Conformance Report (NCR), complete form, file, and follow-up

NCR #

Item

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Reviewed By:

*Brooke Francis*

Date:

6/15/18

QA Review By:

*Richard Stach*

Date:

7/2/18



# LEIDOS Laboratory Data Package Detail Form

**Project:** Kingsley

Page 1 of 3

SDG No: J39023

Analyte Group: PFC

**\*\*SEE ATTACHED\*\***

[illegible]

Comments:

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# Sample Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-39023-1	MW-KLA01-01-01	Water	05/06/18 14:50	05/08/18 09:00
320-39023-2	MW-KLA02-01-01	Water	05/06/18 12:05	05/09/18 09:20
320-39023-3	MW-KLA03-01-01	Water	05/06/18 15:55	05/08/18 09:00
320-39023-4	MW-KLA04-01-01	Water	05/06/18 14:15	05/08/18 09:00
320-39023-5	MW-573-03-PRL05-01	Water	05/06/18 09:15	05/08/18 09:00
320-39023-6	MW-572-02-PRL05-01	Water	05/06/18 10:30	05/08/18 09:00
320-39023-7	MW-KLA06-01-01	Water	05/06/18 13:15	05/08/18 09:00
320-39023-8	KLA08-SW1-01	Water	05/07/18 08:30	05/08/18 09:00
320-39023-9	KLA-01-SB1-01	Solid	05/02/18 14:00	05/09/18 09:20
320-39023-10	KLA-01-SB1-02	Solid	05/02/18 14:10	05/09/18 09:20
320-39023-11	KLA-01-SB2-01	Solid	05/02/18 13:15	05/09/18 09:20
320-39023-12	KLA-01-SB2-02	Solid	05/02/18 13:20	05/09/18 09:20
320-39023-13	KLA-01-SB3-01	Solid	05/02/18 14:25	05/09/18 09:20
320-39023-14	KLA-01-SB3-02	Solid	05/02/18 14:30	05/09/18 09:20
320-39023-15	KLA02-SB1-01	Solid	05/04/18 13:40	05/09/18 09:20
320-39023-16	KLA02-SB1-02	Solid	05/04/18 13:45	05/09/18 09:20
320-39023-17	KLA02-SB2-01	Solid	05/04/18 13:20	05/09/18 09:20
320-39023-18	KLA02-SB2-02	Solid	05/04/18 13:25	05/09/18 09:20
320-39023-19	KLA02-SB3-01	Solid	05/04/18 13:55	05/09/18 09:20
320-39023-20	KLA02-SB3-02	Solid	05/04/18 14:00	05/09/18 09:20
320-39023-21	KLA03-SB1-01	Solid	05/01/18 09:00	05/09/18 09:20
320-39023-22	KLA03-SB1-02	Solid	05/01/18 09:05	05/09/18 09:20
320-39023-23	KLA03-SB2-01	Solid	05/02/18 12:15	05/09/18 09:20
320-39023-24	KLA03-SB2-02	Solid	05/02/18 12:20	05/09/18 09:20
320-39023-25	KLA03-SB3-01	Solid	05/01/18 08:45	05/09/18 09:20
320-39023-26	KLA03-SB3-02	Solid	05/01/18 08:50	05/09/18 09:20
320-39023-27	KLA04-SB1-01	Solid	05/04/18 08:35	05/09/18 09:20
320-39023-28	KLA04-SB1-02	Solid	05/04/18 08:40	05/09/18 09:20
320-39023-29	KLA04-SB2-01	Solid	05/04/18 08:20	05/09/18 09:20
320-39023-30	KLA04-SB2-02	Solid	05/04/18 08:25	05/09/18 09:20
320-39023-31	KLA04-SB3-01	Solid	05/04/18 08:05	05/09/18 09:20
320-39023-32	KLA04-SB3-02	Solid	05/04/18 08:10	05/09/18 09:20
320-39023-33	KLA05-SB1-01	Solid	05/05/18 09:00	05/09/18 09:20
320-39023-34	KLA05-SB1-02	Solid	05/05/18 09:10	05/09/18 09:20
320-39023-35	KLA05-SB2-01	Solid	05/05/18 09:30	05/09/18 09:20
320-39023-36	KLA05-SB2-02	Solid	05/05/18 09:40	05/09/18 09:20
320-39023-37	KLA05-SB3-01	Solid	05/05/18 10:10	05/09/18 09:20
320-39023-38	KLA05-SB3-02	Solid	05/05/18 10:20	05/09/18 09:20
320-39023-39	KLA06-SB1-01	Solid	05/01/18 14:15	05/09/18 09:20
320-39023-40	KLA06-SB1-02	Solid	05/01/18 14:20	05/09/18 09:20
320-39023-41	KLA06-SB2-01	Solid	05/01/18 13:45	05/09/18 09:20
320-39023-42	KLA06-SB2-02	Solid	05/01/18 13:50	05/09/18 09:20
320-39023-43	KLA07-SD1-01	Solid	05/06/18 11:30	05/09/18 09:20
320-39023-44	ER-01	Water	05/01/18 15:30	05/09/18 09:20
320-39023-45	FB-01	Water	05/01/18 15:50	05/09/18 09:20
320-39023-46	ER-02	Water	05/02/18 09:40	05/09/18 09:20
320-39023-47	ER-03	Water	05/03/18 10:30	05/08/18 09:00
320-39023-48	ER-04	Water	05/04/18 11:00	05/09/18 09:20
320-39023-49	MW-572-02-PRL05-01D	Water	05/06/18 10:30	05/08/18 09:00
320-39023-51	KLA03-SB-2-01D	Solid	05/02/18 12:15	05/09/18 09:20
320-39023-52	KLA06-SB-2-02D	Solid	05/01/18 13:50	05/09/18 09:20
320-39023-53	KLA02-SB2-02D	Solid	05/04/18 13:25	05/09/18 09:20
320-39023-54	KLA02-SB1-02D	Solid	05/04/18 13:45	05/09/18 09:20

TestAmerica Sacramento

## Sample Summary

Client: Leidos, Inc.

Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-39023-55	KLA05-SB1-01D	Solid	05/05/18 09:00	05/09/18 09:20
320-39023-56	ER-05	Water	05/06/18 16:00	05/08/18 09:00
320-39023-57	IDW-KINGSLEY-SO-LDOS01	Solid	05/07/18 09:45	05/08/18 09:00
320-39023-58	IDW-KINGSLEY-WA-LDOS01	Water	05/07/18 09:30	05/08/18 09:00
320-39023-59	KLA07-SD1-01D	Solid	05/06/18 11:30	05/08/18 09:00

**Leidos - Horsham Project Specific  
PFASs by LC/MS/MS Methods Data Verification/Validation**

**Project:** Kingsley

Page 1 of 10

**SDG No:** J39023

**Analysis:** PFC

**Laboratory:** Test America

**Method:** E537

**Matrix:** Water/Soil

The above data package has been reviewed and the analytical quality control/quality assurance performance data have been summarized. The general criteria used to assess the analytical integrity of the data were based on DOD QSM 5.1 guidance and examination of the following:

Case Narrative	Instrument Sensitivity Checks
Analytical Holding Times	Internal Standard Performance
Sample Preservation	MS/MSD Recoveries and Differences
Method Calibration	LCS Recoveries
Method and Project Blanks	Re-analysis and Secondary Dilution

Project Specific QA/QC or contract requirements may take priority over validation criteria in this procedure.

**\* If this SDG requires full validation; recalculations from the raw data are required for one point for each ICAL, one CCV, one of each QC sample, and one field sample.**

**Data verification and data validation are essentially identical, with the exception that validation requires results to be recalculated from the raw data.**

**Remarks:** DoD QSM

Some results were qualified as estimated due to surrogate, IS, and/or MS/MSD discrepancies

Some results were qualified as non-detect due to blank contamination

**Definition of Qualifiers:**

"U", not detected at the associated level  
"UJ", not detected and associated value estimated  
"J", associated value estimated  
"R", associated value unusable or analyte identity unfounded

Verification/Validation by: Brooke Francis

QA Reviewed by: Brooke Francis

Date: 6/15/18

Date: 7/2/2018



## Case Narrative

Verify direct statements made within the Laboratory Case Narrative (note discrepancies).

Remarks: No additional discrepancies were noted

## Re-analysis and Secondary Dilutions

Verify that re-analysis and secondary dilutions were performed and reported as necessary. Determine appropriate results to report.

Remarks: Some samples were reanalyzed at a dilution

Several samples had analyte concentrations that still exceeded the upper calibration range after the maximum technically possible dilution (100x) without performing serial dilutions; these results were qualified as estimated with reason code N03: Professional judgment used to qualify data that exceeded calibration range after maximum dilution

collection. Note: Trizma preservative is recommended for aqueous samples, but not required.

Soils - Cool 4°C ; extraction within 28 days of sample collection; analysis within 28 days of sample extraction

**Deviations:**

[illegible]

**Actions:**

1. If holding times are exceeded, all results are qualified as estimated (J/UJ)
2. If holding times are exceeded by more than 2X, reviewer may qualify non-detected results as unusable (R)

**Remarks:**

All holding times were met

### Injection Internal Standards (IS)

List any field samples, field QC samples, or laboratory QC samples where injection internal standards are not within 50 to 150% of the peak areas from the ICAL midpoint or daily initial CCV, as applicable.

**\*\*See attached for additional discrepancies \*\***

**Deviations:**

Sample #	Injection IS/% Rec	Affected PFAS Compounds
KLA-01-SB1-01DL	PFOA 228222	
	0.....+	

**Actions:**

If any injection IS is <25%, qualify detects as J; non-detects as R

If any Injection IS is > upper control limit; qualify detects as J, no action for non-detects

If any surrogate is  $\geq 25\%$ , but  $<$  the lower control limit, then qualify detects as J, non-detects as UJ

### Injection IS - Target PFAS Compounds Associations:

13C3-PFBA: PFBS

13C2-PFOA: PFOA, PFHxS, PFHpA all compounds

13C4-PFOS: PFOS, PFNA

13C2-PFDA: No PFAS project compounds

**Remarks:**

FORM VIII  
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCV 320-225818/3 Date Analyzed: 05/28/2018 07:15  
 Instrument ID: A8\_N GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): 2018.05.27LLADX\_003 Heated Purge: (Y/N) N  
 Calibration ID: 39198

		13PFOA					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		5150922	2.70				
UPPER LIMIT		7726383	2.90				
LOWER LIMIT		2575461	2.50				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCB 320-225818/1		4948330	2.70				
CCVL 320-225818/2		4974159	2.70				
MB 320-223615/1-A		4525357	2.70				
LCS 320-223615/2-A		5050927	2.71				
CCV 320-225818/14		5195418	2.70				
CCV 320-225818/25		4983990	2.70				
CCV 320-225820/1		5071434	2.70				
MB 320-224065/1-A		4644358	2.71				
LCS 320-224065/2-A		5665654	2.71				
320-39023-1	MW-KLA01-01-01	5410474	2.70				
320-39023-2	MW-KLA02-01-01	1305306Q	2.71				
320-39023-3	MW-KLA03-01-01	5330619	2.71				
320-39023-5	MW-573-03-PRL05-01	2314739Q	2.71				
320-39023-5 MS	MW-573-03-PRL05-01 MS	2201473Q	2.71				
320-39023-5 MSD	MW-573-03-PRL05-01 MSD	2321634Q	2.72				
320-39023-6	MW-572-02-PRL05-01	4879691	2.71				
CCV 320-225820/12		4860082	2.71				
320-39023-7	MW-KLA06-01-01	1650740Q	2.72				
320-39023-49	MW-572-02-PRL05-01D	6287034	2.71				
CCV 320-225820/16		4898728	2.70				

13PFOA = 13C2-PFOA

13PFOA = 13C2-PFOA

Area Limit = 50%-150% of internal standard area

RT Limit = ± 0.2 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII  
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCV 320-225899/3 Date Analyzed: 05/29/2018 07:19  
 Instrument ID: A8\_N GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): 2018.05.28LLB\_033.d Heated Purge: (Y/N) N  
 Calibration ID: 39198

		13PFOA					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		4832975	2.70				
UPPER LIMIT		7249463	2.90				
LOWER LIMIT		2416488	2.50				
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-39023-10 DL	KLA-01-SB1-02 DL	239883Q	2.71				
320-39023-39 DL	KLA06-SB1-01 DL	255085Q	2.71				
320-39023-40 DL	KLA06-SB1-02 DL	236462Q	2.71				
CCV 320-226044/8		4769042	2.71				
320-39023-41 DL2	KLA06-SB2-01 DL2	52350Q	2.71				
320-39023-41 MS DL2	KLA06-SB2-01 MS DL2	53260Q	2.72				
320-39023-41 MSD DL2	KLA06-SB2-01 MSD DL2	52931Q	2.71				
320-39023-42 DL2	KLA06-SB2-02 DL2	53215Q	2.71				
320-39023-52 DL2	KLA06-SB-2-02D DL2	56168Q	2.71				
320-39023-55 DL	KLA05-SB1-01D DL	55907Q	2.71				
320-39023-41 DL	KLA06-SB2-01 DL	500756Q	2.71				
320-39023-41 MS DL	KLA06-SB2-01 MS DL	488067Q	2.71				
320-39023-41 MSD DL	KLA06-SB2-01 MSD DL	522528Q	2.71				
CCV 320-226044/19		4840719	2.71				
320-39023-42 DL	KLA06-SB2-02 DL	481468Q	2.72				
320-39023-52 DL	KLA06-SB-2-02D DL	455759Q	2.71				
CCV 320-226044/23		4662987	2.71				
CCV 320-226051/1		4655044	2.71				
320-39023-34	KLA05-SB1-02	4607254	2.71				
320-39023-19 DL	KLA02-SB3-01 DL	243200Q	2.71				
320-39023-33 DL	KLA05-SB1-01 DL	270174Q	2.71				
320-39023-35 DL	KLA05-SB2-01 DL	520023Q	2.72				
320-39023-36 DL	KLA05-SB2-02 DL	523724Q	2.71				
320-39023-17 DL	KLA02-SB2-01 DL	54227Q	2.71				
CCV 320-226051/12		4909517	2.71				
320-39023-27 DL	KLA04-SB1-01 DL	52579Q	2.71				
320-39023-28 DL2	KLA04-SB1-02 DL2	52259Q	2.71				
320-39023-29 DL	KLA04-SB2-01 DL	51909Q	2.72				

13PFOA = 13C2-PFOA

13PFOA = 13C2-PFOA

Area Limit = 50%-150% of internal standard area

RT Limit = ± 0.2 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCV 320-225899/3 Date Analyzed: 05/29/2018 07:19  
 Instrument ID: A8\_N GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): 2018.05.28LLB\_033.d Heated Purge: (Y/N) N  
 Calibration ID: 39198

		13PFOA					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		4832975	2.70				
UPPER LIMIT		7249463	2.90				
LOWER LIMIT		2416488	2.50				
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-39023-30 DL	KLA04-SB2-02 DL	52642Q	2.71				
320-39023-31 DL2	KLA04-SB3-01 DL2	57055Q	2.71				
320-39023-32 DL2	KLA04-SB3-02 DL2	56058Q	2.72				
320-39023-37 DL	KLA05-SB3-01 DL	50302Q	2.72				
320-39023-38 DL	KLA05-SB3-02 DL	50073Q	2.71				
CCV 320-226051/23		4597435	2.71				
320-39023-18 DL	KLA02-SB2-02 DL	244352Q	2.71				
320-39023-28 DL	KLA04-SB1-02 DL	237462Q	2.70				
320-39023-31 DL	KLA04-SB3-01 DL	252970Q	2.71				
320-39023-32 DL	KLA04-SB3-02 DL	242527Q	2.71				
320-39023-53 DL	KLA02-SB2-02D DL	281812Q	2.70				
CCV 320-226051/32		4791311	2.71				

13PFOA = 13C2-PFOA  
 13PFOA = 13C2-PFOA

Area Limit = 50%-150% of internal standard area  
 RT Limit =  $\pm$  0.2 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII  
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCV 320-226055/3 Date Analyzed: 05/29/2018 18:33  
 Instrument ID: A8\_N GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): 2018.05.29LLB\_004.d Heated Purge: (Y/N) N  
 Calibration ID: 39198

		13PFOA					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		4490167	2.71				
UPPER LIMIT		6735251	2.91				
LOWER LIMIT		2245084	2.51				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCB 320-226055/1		4995766	2.71				
CCVL 320-226055/2		4987736	2.71				
320-39023-1 DL	MW-KLA01-01-01 DL	1186556Q	2.71				
320-39023-2 DL	MW-KLA02-01-01 DL	65701Q	2.72				
320-39023-3 DL	MW-KLA03-01-01 DL	120036Q	2.71				
320-39023-4 DL	MW-KLA04-01-01 DL	1297832Q	2.71				
320-39023-4	MW-KLA04-01-01	5705596	2.72				
320-39023-5 DL	MW-573-03-PRL05-01 DL	55596Q	2.71				
320-39023-5 MS DL	MW-573-03-PRL05-01 MS DL	56729Q	2.71				
320-39023-5 MSD DL	MW-573-03-PRL05-01 MSD DL	59482Q	2.71				
CCV 320-226055/14		4699321	2.72				
320-39023-6 DL	MW-572-02-PRL05-01 DL	680737Q	2.72				
320-39023-7 DL2	MW-KLA06-01-01 DL2	78115Q	2.71				
320-39023-49 DL	MW-572-02-PRL05-01D DL	689713Q	2.71				
320-39023-56	ER-05	4587675	2.71				
CCV 320-226055/25		4360000	2.71				

13PFOA = 13C2-PFOA  
 13PFOA = 13C2-PFOA

Area Limit = 50%-150% of internal standard area  
 RT Limit = ± 0.2 minutes of internal standard RT

# Column used to flag values outside QC limits

**Surrogates/Extraction Internal Standards (IS)**

List any field samples, field QC samples, or laboratory QC samples where surrogates/extraction internal standards are not within 50%  $\pm$  of their true value.

**Note:** Extraction Internal Standards and surrogates are the same thing. For purposes of data validation and applying validation reason codes, they will be treated as surrogates. Injection internal standards will be treated as internal standards and the use of internal standard reason codes will be used.

**Deviations:**

**\*\*SEe attached for additional discrepancies\*\***

Sample #	Surrogate - % Rec	Affected PFAS Compounds
KLA-01-SB1-01	PFOS 48%	
KLA06-SB2-02	PFNA 44%	
	PFOS 40%	
KLA06-SB-2-02D	PFNA 47%	
	PFOS 44%	

**Actions:**

If any injection IS is <25%, qualify detects as J; non-detects as R

If any Injection IS is > upper control limit; qualify detects as J, no action for non-detects

If any surrogate is  $\geq$  25%, but < the lower control limit, then qualify detects as J, non-detects as UJ

**Surrogate - Target PFAS Compounds Associations:**

13C3-PFBS - PFBS

13C3-PFHxS - PFHxS

13C4-PFHpA - PFHpA

13C8-PFOA - PFOA

13C9-PFNA - PFNA

13C8-PFOS - PFOS

**Remarks:**


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FORM II  
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento

Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Matrix: Solid

Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFBS #	PFHpA #	PFHxS #	PFOA #	PFOS #	PFNA #
KLA02-SB1-01	320-39023-15	81	93	88	93	86	100
KLA02-SB1-02	320-39023-16	71	81	77	84	76	85
KLA02-SB2-01	320-39023-17	78	85	78	94	55	66
KLA02-SB2-01 DL	320-39023-17 DL	94 M	72	66	87	68	84
KLA02-SB2-02	320-39023-18	82	78	72	89	60	71
KLA02-SB2-02 DL	320-39023-18 DL	71	78	82	91	71	86
KLA02-SB3-01	320-39023-19	78	86	82	92	68	85
KLA02-SB3-01 DL	320-39023-19 DL	77 M	84	75	91	74	100
KLA02-SB3-02	320-39023-20	75	80	80	90	76	92
KLA04-SB1-01	320-39023-27	87	98	87	88	30 Q	37 Q
KLA04-SB1-01 DL	320-39023-27 DL	99 M	77	67	93	70	79
KLA04-SB1-02	320-39023-28	95	85	78	84	26 Q	34 Q
KLA04-SB1-02 DL	320-39023-28 DL	70 M	84	71	84	59	76
KLA04-SB1-02 DL2	320-39023-28 DL2	96 M	80	76	95	63	73
KLA04-SB2-01	320-39023-29	96	88	86	83	18 Q	25 Q
KLA04-SB2-01 DL	320-39023-29 DL	111 M	74	64	80	58	68
KLA04-SB2-02	320-39023-30	125	69	65	82	39 Q	55
KLA04-SB2-02 DL	320-39023-30 DL	133 M	70	78	95	61	78
KLA04-SB3-01	320-39023-31	86	88	77	84	20 Q	28 Q
KLA04-SB3-01 DL	320-39023-31 DL	54	75	69	82	47 Q	59
KLA04-SB3-01 DL2	320-39023-31 DL2	71 M	74	53	78	57	73
KLA04-SB3-02	320-39023-32	109	77	65	87	39 Q	51
KLA04-SB3-02 DL	320-39023-32 DL	88	84	76	87	63	78
KLA04-SB3-02 DL2	320-39023-32 DL2	72 M	62	69	89	64	78
KLA05-SB1-01	320-39023-33	72	81	68	90	68	74
KLA05-SB1-01 DL	320-39023-33 DL	54	83	75	97	69	90
KLA05-SB1-02	320-39023-34	68	81	70	88	72	88
KLA05-SB2-01	320-39023-35	69	85	71	92	73	89
KLA05-SB2-01 DL	320-39023-35 DL	59	82	70	86	69	89
KLA05-SB2-02	320-39023-36	70	74	74	85	72	87
KLA05-SB2-02 DL	320-39023-36 DL	72	77	72	92	70	85
KLA05-SB3-01	320-39023-37	122	66	46 Q	87	13 Q	19 Q
KLA05-SB3-01 DL	320-39023-37 DL	60 M	80	75	82	53	68
KLA05-SB3-02	320-39023-38	73	81	73	87	40 Q	50
KLA05-SB3-02 DL	320-39023-38 DL	78 M	81	79	99	70	98

QC LIMITS

PFBS = 13C3-PFBS  
 PFHpA = 13C4-PFHpA  
 PFHxS = 18O2 PFHxS  
 PFOA = 13C4 PFOA  
 PFOS = 13C4 PFOS  
 PFNA = 13C5 PFNA

50-150  
 50-150  
 50-150  
 50-150  
 50-150  
 50-150

# Column to be used to flag recovery values

FORM II EPA 537 (Mod)

FORM II  
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento

Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Matrix: Water

Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFBS #	PFHpA #	PFHxS #	PFOA #	PFOS #	PFNA #
MW-KLA01-01-01	320-39023-1	75	79	80	87	74	81
MW-KLA01-01-01 DL	320-39023-1 DL	72	77	72	83	67	77
MW-KLA02-01-01	320-39023-2	321 Q	44 Q	77	65	28 Q	40 Q
MW-KLA02-01-01 DL	320-39023-2 DL	176 Q	54	96	68	44 Q	53
MW-KLA03-01-01	320-39023-3	75	69	66	85	54	62
MW-KLA03-01-01 DL	320-39023-3 DL	68 M	72	72	83	75	77
MW-KLA04-01-01	320-39023-4	71	74	69	80	69	79
MW-KLA04-01-01 DL	320-39023-4 DL	63	65	62	75	62	67
MW-573-03-PRL05-01	320-39023-5	136	46 Q	54	77	48 Q	58
MW-573-03-PRL05-01 DL	320-39023-5 DL	99 M	64	73	73	66	69
MW-572-02-PRL05-01	320-39023-6	85	83	81	89	74	82
MW-572-02-PRL05-01 DL	320-39023-6 DL	69 M	79	77	92	75	84
MW-KLA06-01-01	320-39023-7	233 Q	37 Q	54	52	36 Q	50
MW-KLA06-01-01 DL2	320-39023-7 DL2	145 M	53	76	58	46 Q	51
MW-572-02-PRL05-01 D	320-39023-49	59	60	58	65	55	61
MW-572-02-PRL05-01 D DL	320-39023-49 DL	53	56	52	63	53	60
ER-05	320-39023-56	84	93	87	98	91	104
	MB 320-224065/1-A	88	93	94	103	92	106
	LCS 320-224065/2-A	66	70	70	74	66	72
MW-573-03-PRL05-01 MS	320-39023-5 MS	146	48 Q	55	80	48 Q	62
MW-573-03-PRL05-01 MS DL	320-39023-5 MS DL	107 M	64	82	86	61	71
MW-573-03-PRL05-01 MSD	320-39023-5 MSD	134	45 Q	54	76	45 Q	58
MW-573-03-PRL05-01 MSD DL	320-39023-5 MSD DL	107 M	65	76	76	64	72

QC LIMITS

PFBS = 13C3-PFBS  
PFHpA = 13C4-PFHpA  
PFHxS = 18O2 PFHxS  
PFOA = 13C4 PFOA  
PFOS = 13C4 PFOS  
PFNA = 13C5 PFNA

50-150  
50-150  
50-150  
50-150  
50-150  
50-150

# Column to be used to flag recovery values

FORM II EPA 537 (Mod)



**VI. Blanks**

A method blank was reported for each aqueous analytical batch and one method blank was reported for each soil extraction batch? (Y/N)

Review associated laboratory and project blank samples. List documented contamination below:

**Laboratory Method Blanks:**

Date:	Sample ID #	Compound	Conc.
5/21/18	MB 320-224509	PFOS	1.82 ng/L

**Associated Project Blanks (e.g., equipment rinsates, field reagent blanks, source blanks, etc.)**

Date	Sample ID #	Compound	Conc.
5/6/18	ER-05	PFOA	0.74 ng/L
		PFBS	0.52 ng/L
		PFOS	13 ng/L
5/4/18	ER-04	PFOS	1.3 ng/L
5/1/18	FB-01	PFOS	1.7 ng/L
5/1/18	ER-01	PFHpA	0.88 ng/L
		PFOA	1.7 ng/L
		PFBS	0.40 ng/L
		PFOS	8.7 ng/L
5/2/18	ER-02	PFOA	0.52 ng/L
		PFOS	4.4 ng/L

**Remarks:**

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**VI. Blanks (continued)**

Calculate the action level based on 5X the highest blank concentration

Sample weights, volumes, and dilution factors must be taken into account when applying the 5X criteria.

$$1.82 \text{ ng/L} * 0.01\text{L}/0.25\text{L} =$$

$$0.00909 \text{ ng/mL} * 10\text{mL}/0.25\text{L} =$$

**Deviations:**

Compound	Maximum Conc. Detected, (ppb)	Action Level (ppb)	Samples Affected	
PFOS	1.82 ng/L	0.364 ng/L	320-224509	320-39023-8 MB 320-224509
PFHxS	0.00909 ng/mL	0.0909 ug/kg or 1.81 ng/L	CCB	All samples
PFHpA ER-1	0.88 ng/L	4.40 ng/L 0.008 ug/kg	Sampled 5/1/18	Results either ND or >AL
PFOA	1.7 ng/L	8.5 ng/L 0.017 ug/kg		Results either ND or >AL
PFBS	0.40 ng/L	2.0 ng/L 0.004 ug/kg		
PFOS	8.7 ng/L	43.5 ng/L 0.087 ug/kg		Results either ND or >AL
PFOS FB	1.7 ng/L 8.5	8.5 ng/L 0.017 ug/kg	All samples	Results either ND or >AL
PFOA ER-2	0.52 ng/L	2.6 ng/L 0.005 ug/kg	Sampled 5/2/18	Results either ND or >AL
PFOS	4.4 ng/L	22.0 ng/L 0.04 ug/kg		Results either ND or >AL
PFOS ER-4	1.3 ng/L	6.5 ng/L	Sampled 5/4/18	Results either ND or >AL
PFOA ER-5	0.74 ng/L 3.7	3.7 ng/L	Sampled 5/6/18	Results either ND or >AL
PFBS	0.52 ng/L 2.6	2.6 ng/L		
PFOS	13 ng/L 65	65 ng/L		Results either ND or >AL
Field (FB) and rinsate blanks (ER) prepared the same as aqueous samples so AL is ER*5 for any aqueous sample				

**Actions:**

1. If compound results exceed the action levels, the data are not qualified
2. If compound results are below the required reporting level, report results as non-detect (U) at the LOD
3. If the compound is detected above the reporting level, but below the action level, qualify as not-detected (U)
4. If contamination exists in method blanks < 1/2 LOQ, samples must be re-extracted and reanalyzed.

Unless the MB results are < 1/10 the amount in associated samples or < 10 the action level, which ever is greater

**Remarks:**


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**VII. Initial & Continuing Calibration**

Date of initial calibration: \_\_\_\_\_

%RSD of RFs < 20% or  $r^2 \geq 0.99$  for each analyte?

Analytes within 70-130% of their true value in each ICAL standard?

ICV within  $\pm 30\%$  of true value?

Date(s) of continuing calibration: \_\_\_\_\_

CCV analyzed at beginning and end of analytical sequence and after every 10 field samples?

CCV within  $\pm 30\%$  of true value?

Instrument sensitivity check (ISC) performed at the LOQ prior to analysis and every 12 hours?

ICS within  $\pm 30\%$  of true value?**Deviations:**

Compound	Date	r value	%Drift	Samples Affected

**Actions:**

1. If initial calibration curve criteria are not met, qualify positive results as estimated (J) and non-detects as estimated (UJ), using professional judgement (i.e. if only the low standard is out, and the higher standards are in, then only qualify those results near the low standard).
2. Only evaluate the ICV if it brackets field samples. If the ICV does bracket field samples, then CCV actions apply.
3. If a CCV is above the upper control limit, qualify detects as estimated (J). Non-detects require no action.
4. If a CCV is below the lower control limit but > 40% recovery, qualify results as estimated (J/UJ).
5. If a CCV is  $\leq 40\%$  recovery, qualify detects as estimated (J) and non-detects as rejected (R).
6. If CCVs were not analyzed at the proper frequency, use professional judgement.
7. If ISC is > UCL, estimate (J) detects, no action for non-detects; If ISC is < LCL, estimate data (J/UJ), if ISC is < 30% reject (R) non-detects.

Remarks: \_\_\_\_\_

All calibration results met control limits


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**IX. Matrix Spike/Matrix Spike Duplicate Information**

General MS/MSD Criteria:

percent recovery (%R)

in-house limits

relative percent difference (RPD)

30% RPD

Project Sample(s) Spiked:

MW-573-03-PRL05-01 MW-573-03-PRL05-01DL

KLA02-SB1-01 KLA06-SB2-01 KLA06-SB2-01DL

KLA07-SD1-01D

**Deviations:**

Compound	%R	%R Limits	RPD	RPD Limits	Samples Affected
PFHpA	125/141	76-124			KLA06-SB2-01
PFOA	151/205	76-121			KLA06-SB2-01
PFHpA	181/194	76-124			KLA06-SB2-01DL
PFOA	177/226	76-121			
PFBS	153	73-124			
PFOS	48	69-131			KLA02-SB1-01

**Actions:**

1. If the spike recovery is above the upper control limit (UCL), qualify all positive values in the unspiked sample as estimated (J) and non-detects as estimated (UJ).
2. If the spike recovery is below the lower control limit (LCL), qualify positive values as estimated (J). And non-detects as estimated (UJ).
3. If the spike recovery is <10%, qualify non-detect values as unusable (R)
4. If the RPD does not meet criteria, qualify positive values in the unspiked sample as estimated (J)
5. Use professional judgement to qualify additional samples in the analytical group based on MS/MSD results
6. Use professional judgement for qualification of data for unspiked compounds

**\* If this SDG requires full validation; recalculate at least one % recovery and one % RPD from the raw data. Attach all calculations at the end of the validation checklist.**

**Remarks:**

Sample concentrations > 4 x the spike amount precluded an assessment of accuracy; results were not qualified for samples with elevated native concentrations

## X. Laboratory Control Sample Information

General LCS Criteria:

Percent recovery (%R) = in-house limits

RPD if LCSD performed = 30% RPD

Laboratory LCS Identifications:

LCS 320-223091 LCS 320-223092 LCS 320-223346 LCS 320-223615

LCS 320-223901 LCS 320-224065 LCS 320-224254 LCS/D 320-224509

**Deviations:**

[illegible]

**Actions:**

**\* If this SDG requires full validation; recalculate at least one % recovery and one % RPD (if LCSD was performed) from the raw data. Attach all calculations at the end of the validation checklist.**

Action should be based on both the number of compounds outside the criterion and the magnitude of the exceedance.

1. If the LCS recovery is below limits but > one- half the lower limit, qualify valves as estimated (J/UJ).
2. If the LCS recovery is < one-half the lower limit, qualify detect (J) and non-detects ( R )
3. If the LCS recovery is greater than the upper limit, qualify positive valves for that analyte as estimated (J).
5. Use professional judgement for qualification of data for compounds with no LCS information

## Remarks:

All LCS/LCSD %R and RPD results met control limits

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# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-KLA01-01-01**

**Date Collected: 05/06/18 14:50**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-1**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	7.6		1.9	0.59	ng/L		05/18/18 10:26	05/28/18 11:18	1
Perfluorooctanoic acid (PFOA)	20		1.9	0.52	ng/L		05/18/18 10:26	05/28/18 11:18	1
Perfluorononanoic acid (PFNA)	0.56	J M J	1.9	0.50	ng/L		05/18/18 10:26	05/28/18 11:18	1
Perfluorobutanesulfonic acid (PFBS)	39	M =	1.9	0.44	ng/L		05/18/18 10:26	05/28/18 11:18	1
Perfluorohexanesulfonic acid (PFHxS)	220		1.9	0.37	ng/L		05/18/18 10:26	05/28/18 11:18	1
Perfluorooctanesulfonic acid (PFOS)	510	E *	3.9	1.1	ng/L		05/18/18 10:26	05/28/18 11:18	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	75		50 - 150				05/18/18 10:26	05/28/18 11:18	1
13C4-PFHpA	79		50 - 150				05/18/18 10:26	05/28/18 11:18	1
13C4 PFOA	87		50 - 150				05/18/18 10:26	05/28/18 11:18	1
13C5 PFNA	81		50 - 150				05/18/18 10:26	05/28/18 11:18	1
18O2 PFHxS	80		50 - 150				05/18/18 10:26	05/28/18 11:18	1
13C4 PFOS	74		50 - 150				05/18/18 10:26	05/28/18 11:18	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	7.5	J D *	9.7	2.9	ng/L		05/18/18 10:26	05/29/18 18:41	5
Perfluorooctanoic acid (PFOA)	22	D	9.7	2.6	ng/L		05/18/18 10:26	05/29/18 18:41	5
Perfluorononanoic acid (PFNA)	7.2	U M	9.7	2.5	ng/L		05/18/18 10:26	05/29/18 18:41	5
Perfluorobutanesulfonic acid (PFBS)	40	D M	9.7	2.2	ng/L		05/18/18 10:26	05/29/18 18:41	5
Perfluorohexanesulfonic acid (PFHxS)	230	D	9.7	1.8	ng/L		05/18/18 10:26	05/29/18 18:41	5
Perfluorooctanesulfonic acid (PFOS)	500	D J K01	19	5.3	ng/L		05/18/18 10:26	05/29/18 18:41	5
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	72		50 - 150				05/18/18 10:26	05/29/18 18:41	5
13C4-PFHpA	77		50 - 150				05/18/18 10:26	05/29/18 18:41	5
13C4 PFOA	83		50 - 150				05/18/18 10:26	05/29/18 18:41	5
13C5 PFNA	77		50 - 150				05/18/18 10:26	05/29/18 18:41	5
18O2 PFHxS	72		50 - 150				05/18/18 10:26	05/29/18 18:41	5
13C4 PFOS	67		50 - 150				05/18/18 10:26	05/29/18 18:41	5

**Client Sample ID: MW-KLA02-01-01**

**Date Collected: 05/06/18 12:05**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-2**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	7300	E *	1.8	0.55	ng/L		05/18/18 10:26	05/28/18 11:26	1
Perfluorooctanoic acid (PFOA)	13000	E M *	1.8	0.49	ng/L		05/18/18 10:26	05/28/18 11:26	1
Perfluorononanoic acid (PFNA)	340	M J G02 K01	1.8	0.47	ng/L		05/18/18 10:26	05/28/18 11:26	1
Perfluorobutanesulfonic acid (PFBS)	1500	E M *	1.8	0.42	ng/L		05/18/18 10:26	05/28/18 11:26	1
Perfluorohexanesulfonic acid (PFHxS)	14000	E M *	1.8	0.34	ng/L		05/18/18 10:26	05/28/18 11:26	1
Perfluorooctanesulfonic acid (PFOS)	88000	E M *	3.6	1.0	ng/L		05/18/18 10:26	05/28/18 11:26	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-KLA02-01-01**

**Date Collected: 05/06/18 12:05**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-2**

**Matrix: Water**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	321	Q	50 - 150	05/18/18 10:26	05/28/18 11:26	1
13C4-PFHpA	44	Q	50 - 150	05/18/18 10:26	05/28/18 11:26	1
13C4 PFOA	65		50 - 150	05/18/18 10:26	05/28/18 11:26	1
13C5 PFNA	40	Q	50 - 150	05/18/18 10:26	05/28/18 11:26	1
18O2 PFHxS	77		50 - 150	05/18/18 10:26	05/28/18 11:26	1
13C4 PFOS	28	Q	50 - 150	05/18/18 10:26	05/28/18 11:26	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	7700	D * J K01	180	55	ng/L		05/18/18 10:26	05/29/18 18:49	100
Perfluorooctanoic acid (PFOA)	21000	D * J K01	180	49	ng/L		05/18/18 10:26	05/29/18 18:49	100
Perfluorononanoic acid (PFNA)	340	D M * J K01	180	47	ng/L		05/18/18 10:26	05/29/18 18:49	100
Perfluorobutanesulfonic acid (PFBS)	9700	D * J K01	180	42	ng/L		05/18/18 10:26	05/29/18 18:49	100
Perfluorohexanesulfonic acid (PFHxS)	66000	E D J K01 , N03	180	34	ng/L		05/18/18 10:26	05/29/18 18:49	100
Perfluorooctanesulfonic acid (PFOS)	380000	E D J G02 K01 N03	360	100	ng/L		05/18/18 10:26	05/29/18 18:49	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	176	Q	50 - 150				05/18/18 10:26	05/29/18 18:49	100
13C4-PFHpA	54		50 - 150				05/18/18 10:26	05/29/18 18:49	100
13C4 PFOA	68		50 - 150				05/18/18 10:26	05/29/18 18:49	100
13C5 PFNA	53		50 - 150				05/18/18 10:26	05/29/18 18:49	100
18O2 PFHxS	96		50 - 150				05/18/18 10:26	05/29/18 18:49	100
13C4 PFOS	44	Q	50 - 150				05/18/18 10:26	05/29/18 18:49	100

**Client Sample ID: MW-KLA03-01-01**

**Date Collected: 05/06/18 15:55**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-3**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	200		2.0	0.61	ng/L		05/18/18 10:26	05/28/18 11:34	1
Perfluorooctanoic acid (PFOA)	290		2.0	0.54	ng/L		05/18/18 10:26	05/28/18 11:34	1
Perfluorononanoic acid (PFNA)	16	M =	2.0	0.52	ng/L		05/18/18 10:26	05/28/18 11:34	1
Perfluorobutanesulfonic acid (PFBS)	180		2.0	0.46	ng/L		05/18/18 10:26	05/28/18 11:34	1
Perfluorohexanesulfonic acid (PFHxS)	1800	E *	2.0	0.38	ng/L		05/18/18 10:26	05/28/18 11:34	1
Perfluorooctanesulfonic acid (PFOS)	5200	E *	4.0	1.1	ng/L		05/18/18 10:26	05/28/18 11:34	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	75		50 - 150				05/18/18 10:26	05/28/18 11:34	1
13C4-PFHpA	69		50 - 150				05/18/18 10:26	05/28/18 11:34	1
13C4 PFOA	85		50 - 150				05/18/18 10:26	05/28/18 11:34	1
13C5 PFNA	62		50 - 150				05/18/18 10:26	05/28/18 11:34	1
18O2 PFHxS	66		50 - 150				05/18/18 10:26	05/28/18 11:34	1
13C4 PFOS	54		50 - 150				05/18/18 10:26	05/28/18 11:34	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	190	D *	100	30	ng/L		05/18/18 10:26	05/29/18 19:04	50

N03: Professional judgment used to qualify data that exceeded calibration range after maximum dilution

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-KLA03-01-01**

**Lab Sample ID: 320-39023-3**

**Date Collected: 05/06/18 15:55**

**Matrix: Water**

**Date Received: 05/08/18 09:00**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	300	D *	100	27	ng/L		05/18/18 10:26	05/29/18 19:04	50
Perfluorononanoic acid (PFNA)	75	U *	100	26	ng/L		05/18/18 10:26	05/29/18 19:04	50
Perfluorobutanesulfonic acid (PFBS)	170	D *	100	23	ng/L		05/18/18 10:26	05/29/18 19:04	50
Perfluorohexanesulfonic acid (PFHxS)	2700	D J K01	100	19	ng/L		05/18/18 10:26	05/29/18 19:04	50
Perfluorooctanesulfonic acid (PFOS)	6100	D M J K01	200	55	ng/L		05/18/18 10:26	05/29/18 19:04	50
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	68	M	50 - 150				05/18/18 10:26	05/29/18 19:04	50
13C4-PFHpa	72		50 - 150				05/18/18 10:26	05/29/18 19:04	50
13C4 PFOA	83		50 - 150				05/18/18 10:26	05/29/18 19:04	50
13C5 PFNA	77		50 - 150				05/18/18 10:26	05/29/18 19:04	50
18O2 PFHxS	72		50 - 150				05/18/18 10:26	05/29/18 19:04	50
13C4 PFOS	75		50 - 150				05/18/18 10:26	05/29/18 19:04	50

**Client Sample ID: MW-KLA04-01-01**

**Lab Sample ID: 320-39023-4**

**Date Collected: 05/06/18 14:15**

**Matrix: Water**

**Date Received: 05/08/18 09:00**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	27		2.0	0.60	ng/L		05/18/18 10:26	05/29/18 19:20	1
Perfluorooctanoic acid (PFOA)	41		2.0	0.53	ng/L		05/18/18 10:26	05/29/18 19:20	1
Perfluorononanoic acid (PFNA)	1.5	U M U	2.0	0.51	ng/L		05/18/18 10:26	05/29/18 19:20	1
Perfluorobutanesulfonic acid (PFBS)	96		2.0	0.45	ng/L		05/18/18 10:26	05/29/18 19:20	1
Perfluorohexanesulfonic acid (PFHxS)	610	E *	2.0	0.38	ng/L		05/18/18 10:26	05/29/18 19:20	1
Perfluorooctanesulfonic acid (PFOS)	100		4.0	1.1	ng/L		05/18/18 10:26	05/29/18 19:20	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	71		50 - 150				05/18/18 10:26	05/29/18 19:20	1
13C4-PFHpa	74		50 - 150				05/18/18 10:26	05/29/18 19:20	1
13C4 PFOA	80		50 - 150				05/18/18 10:26	05/29/18 19:20	1
13C5 PFNA	79		50 - 150				05/18/18 10:26	05/29/18 19:20	1
18O2 PFHxS	69		50 - 150				05/18/18 10:26	05/29/18 19:20	1
13C4 PFOS	69		50 - 150				05/18/18 10:26	05/29/18 19:20	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	31	D *	9.9	3.0	ng/L		05/18/18 10:26	05/29/18 19:12	5
Perfluorooctanoic acid (PFOA)	43	D *	9.9	2.7	ng/L		05/18/18 10:26	05/29/18 19:12	5
Perfluorononanoic acid (PFNA)	7.4	U M *	9.9	2.6	ng/L		05/18/18 10:26	05/29/18 19:12	5
Perfluorobutanesulfonic acid (PFBS)	95	D *	9.9	2.3	ng/L		05/18/18 10:26	05/29/18 19:12	5
Perfluorohexanesulfonic acid (PFHxS)	690	D J K01	9.9	1.9	ng/L		05/18/18 10:26	05/29/18 19:12	5
Perfluorooctanesulfonic acid (PFOS)	100	D *	20	5.4	ng/L		05/18/18 10:26	05/29/18 19:12	5

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-KLA04-01-01**

**Date Collected: 05/06/18 14:15**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-4**

**Matrix: Water**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	63		50 - 150	05/18/18 10:26	05/29/18 19:12	5
13C4-PFHpa	65		50 - 150	05/18/18 10:26	05/29/18 19:12	5
13C4 PFOA	75		50 - 150	05/18/18 10:26	05/29/18 19:12	5
13C5 PFNA	67		50 - 150	05/18/18 10:26	05/29/18 19:12	5
18O2 PFHxS	62		50 - 150	05/18/18 10:26	05/29/18 19:12	5
13C4 PFOS	62		50 - 150	05/18/18 10:26	05/29/18 19:12	5

**Client Sample ID: MW-573-03-PRL05-01**

**Date Collected: 05/06/18 09:15**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-5**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	4400	E J1 *	2.0	0.60	ng/L		05/18/18 10:26	05/28/18 11:50	1
Perfluorooctanoic acid (PFOA)	4700	E J1 *	2.0	0.54	ng/L		05/18/18 10:26	05/28/18 11:50	1
Perfluorononanoic acid (PFNA)	200	J1 J K01	2.0	0.52	ng/L		05/18/18 10:26	05/28/18 11:50	1
Perfluorobutanesulfonic acid (PFBS)	1900	E J1 M *	2.0	0.46	ng/L		05/18/18 10:26	05/28/18 11:50	1
Perfluorohexanesulfonic acid (PFHxS)	12000	E J1 *	2.0	0.38	ng/L		05/18/18 10:26	05/28/18 11:50	1
Perfluorooctanesulfonic acid (PFOS)	32000	J1 E M *	4.0	1.1	ng/L		05/18/18 10:26	05/28/18 11:50	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	136		50 - 150				05/18/18 10:26	05/28/18 11:50	1
13C4-PFHpA	46	Q	50 - 150				05/18/18 10:26	05/28/18 11:50	1
13C4 PFOA	77		50 - 150				05/18/18 10:26	05/28/18 11:50	1
13C5 PFNA	58		50 - 150				05/18/18 10:26	05/28/18 11:50	1
18O2 PFHxS	54		50 - 150				05/18/18 10:26	05/28/18 11:50	1
13C4 PFOS	48	Q	50 - 150				05/18/18 10:26	05/28/18 11:50	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5100	J1 D J K01	200	60	ng/L		05/18/18 10:26	05/29/18 19:28	100
Perfluorooctanoic acid (PFOA)	6700	J1 D J K01	200	54	ng/L		05/18/18 10:26	05/29/18 19:28	100
Perfluorononanoic acid (PFNA)	190	J J1 D M *	200	52	ng/L		05/18/18 10:26	05/29/18 19:28	100
Perfluorobutanesulfonic acid (PFBS)	3900	J1 D J K01	200	46	ng/L		05/18/18 10:26	05/29/18 19:28	100
Perfluorohexanesulfonic acid (PFHxS)	39000	E J1 D J K01 N03	200	38	ng/L		05/18/18 10:26	05/29/18 19:28	100
Perfluorooctanesulfonic acid (PFOS)	63000	J1 E D J K01 N03	400	110	ng/L		05/18/18 10:26	05/29/18 19:28	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	99	M	50 - 150				05/18/18 10:26	05/29/18 19:28	100
13C4-PFHpA	64		50 - 150				05/18/18 10:26	05/29/18 19:28	100
13C4 PFOA	73		50 - 150				05/18/18 10:26	05/29/18 19:28	100
13C5 PFNA	69		50 - 150				05/18/18 10:26	05/29/18 19:28	100
18O2 PFHxS	73		50 - 150				05/18/18 10:26	05/29/18 19:28	100
13C4 PFOS	66		50 - 150				05/18/18 10:26	05/29/18 19:28	100

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-572-02-PRL05-01**

**Lab Sample ID: 320-39023-6**

**Date Collected: 05/06/18 10:30**

**Matrix: Water**

**Date Received: 05/08/18 09:00**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	25		1.9	0.57	ng/L		05/18/18 10:26	05/28/18 12:13	1
Perfluorooctanoic acid (PFOA)	56		1.9	0.51	ng/L		05/18/18 10:26	05/28/18 12:13	1
Perfluorononanoic acid (PFNA)	3.8		1.9	0.49	ng/L		05/18/18 10:26	05/28/18 12:13	1
Perfluorobutanesulfonic acid (PFBS)	27		1.9	0.43	ng/L		05/18/18 10:26	05/28/18 12:13	1
Perfluorohexanesulfonic acid (PFHxS)	360	E *	1.9	0.36	ng/L		05/18/18 10:26	05/28/18 12:13	1
Perfluorooctanesulfonic acid (PFOS)	1100	E M *	3.8	1.0	ng/L		05/18/18 10:26	05/28/18 12:13	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	85		50 - 150				05/18/18 10:26	05/28/18 12:13	1
13C4-PFHpA	83		50 - 150				05/18/18 10:26	05/28/18 12:13	1
13C4 PFOA	89		50 - 150				05/18/18 10:26	05/28/18 12:13	1
13C5 PFNA	82		50 - 150				05/18/18 10:26	05/28/18 12:13	1
18O2 PFHxS	81		50 - 150				05/18/18 10:26	05/28/18 12:13	1
13C4 PFOS	74		50 - 150				05/18/18 10:26	05/28/18 12:13	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	23	D *	19	5.7	ng/L		05/18/18 10:26	05/29/18 20:07	10
Perfluorooctanoic acid (PFOA)	55	D *	19	5.1	ng/L		05/18/18 10:26	05/29/18 20:07	10
Perfluorononanoic acid (PFNA)	14	U M *	19	4.9	ng/L		05/18/18 10:26	05/29/18 20:07	10
Perfluorobutanesulfonic acid (PFBS)	27	D *	19	4.3	ng/L		05/18/18 10:26	05/29/18 20:07	10
Perfluorohexanesulfonic acid (PFHxS)	360	D J K01	19	3.6	ng/L		05/18/18 10:26	05/29/18 20:07	10
Perfluorooctanesulfonic acid (PFOS)	1100	D J K01	38	10	ng/L		05/18/18 10:26	05/29/18 20:07	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	69	M	50 - 150				05/18/18 10:26	05/29/18 20:07	10
13C4-PFHpA	79		50 - 150				05/18/18 10:26	05/29/18 20:07	10
13C4 PFOA	92		50 - 150				05/18/18 10:26	05/29/18 20:07	10
13C5 PFNA	84		50 - 150				05/18/18 10:26	05/29/18 20:07	10
18O2 PFHxS	77		50 - 150				05/18/18 10:26	05/29/18 20:07	10
13C4 PFOS	75		50 - 150				05/18/18 10:26	05/29/18 20:07	10

**Client Sample ID: MW-KLA06-01-01**

**Lab Sample ID: 320-39023-7**

**Date Collected: 05/06/18 13:15**

**Matrix: Water**

**Date Received: 05/08/18 09:00**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	6100	E *	1.9	0.59	ng/L		05/18/18 10:26	05/28/18 12:29	1
Perfluorooctanoic acid (PFOA)	11000	E M	1.9	0.52	ng/L		05/18/18 10:26	05/28/18 12:29	1
Perfluorononanoic acid (PFNA)	500	E M	1.9	0.50	ng/L		05/18/18 10:26	05/28/18 12:29	1
Perfluorobutanesulfonic acid (PFBS)	1600	E	1.9	0.45	ng/L		05/18/18 10:26	05/28/18 12:29	1
Perfluorohexanesulfonic acid (PFHxS)	17000	E M	1.9	0.37	ng/L		05/18/18 10:26	05/28/18 12:29	1
Perfluorooctanesulfonic acid (PFOS)	57000	E	3.9	1.1	ng/L		05/18/18 10:26	05/28/18 12:29	1

TestAmerica Sacramento



# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-KLA06-01-01**

**Date Collected: 05/06/18 13:15**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-7**

**Matrix: Water**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	233	Q	50 - 150	05/18/18 10:26	05/28/18 12:29	1
13C4-PFHpa	37	Q	50 - 150	05/18/18 10:26	05/28/18 12:29	1
13C4 PFOA	52		50 - 150	05/18/18 10:26	05/28/18 12:29	1
13C5 PFNA	50		50 - 150	05/18/18 10:26	05/28/18 12:29	1
18O2 PFHxS	54		50 - 150	05/18/18 10:26	05/28/18 12:29	1
13C4 PFOS	36	Q	50 - 150	05/18/18 10:26	05/28/18 12:29	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5400	D J K01	190	59	ng/L		05/18/18 10:26	05/29/18 20:31	100
Perfluorooctanoic acid (PFOA)	14000	D J K01	190	52	ng/L		05/18/18 10:26	05/29/18 20:31	100
Perfluorononanoic acid (PFNA)	490	D J K01	190	50	ng/L		05/18/18 10:26	05/29/18 20:31	100
Perfluorobutanesulfonic acid (PFBS)	7900	D J K01	190	45	ng/L		05/18/18 10:26	05/29/18 20:31	100
Perfluorohexanesulfonic acid (PFHxS)	68000	E D J K01 N03	190	37	ng/L		05/18/18 10:26	05/29/18 20:31	100
Perfluorooctanesulfonic acid (PFOS)	130000	E D J G02 K01 N03	390	110	ng/L		05/18/18 10:26	05/29/18 20:31	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	145	M	50 - 150				05/18/18 10:26	05/29/18 20:31	100
13C4-PFHpA	53		50 - 150				05/18/18 10:26	05/29/18 20:31	100
13C4 PFOA	58		50 - 150				05/18/18 10:26	05/29/18 20:31	100
13C5 PFNA	51		50 - 150				05/18/18 10:26	05/29/18 20:31	100
18O2 PFHxS	76		50 - 150				05/18/18 10:26	05/29/18 20:31	100
13C4 PFOS	46	Q	50 - 150				05/18/18 10:26	05/29/18 20:31	100

**Client Sample ID: KLA08-SW1-01**

**Date Collected: 05/07/18 08:30**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-8**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.5	J M J	1.9	0.58	ng/L		05/21/18 12:01	05/31/18 04:51	1
Perfluorooctanoic acid (PFOA)	1.8	J M J	1.9	0.52	ng/L		05/21/18 12:01	05/31/18 04:51	1
Perfluorononanoic acid (PFNA)	0.95	J M J	1.9	0.50	ng/L		05/21/18 12:01	05/31/18 04:51	1
Perfluorobutanesulfonic acid (PFBS)	0.96	U M U	1.9	0.44	ng/L		05/21/18 12:01	05/31/18 04:51	1
Perfluorohexanesulfonic acid (PFHxS)	3.7	M =	1.9	0.36	ng/L		05/21/18 12:01	05/31/18 04:51	1
Perfluorooctanesulfonic acid (PFOS)	28	M =	3.8	1.1	ng/L		05/21/18 12:01	05/31/18 04:51	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	76		50 - 150				05/21/18 12:01	05/31/18 04:51	1
13C4-PFHpA	76		50 - 150				05/21/18 12:01	05/31/18 04:51	1
13C4 PFOA	95		50 - 150				05/21/18 12:01	05/31/18 04:51	1
13C5 PFNA	103		50 - 150				05/21/18 12:01	05/31/18 04:51	1
18O2 PFHxS	93		50 - 150				05/21/18 12:01	05/31/18 04:51	1
13C4 PFOS	101		50 - 150				05/21/18 12:01	05/31/18 04:51	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA-01-SB1-01**

**Date Collected: 05/02/18 14:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-9**

**Matrix: Solid**

**Percent Solids: 79.0**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.38		0.38	0.098	ug/Kg	☼	05/14/18 13:10	05/29/18 03:32	1
Perfluorooctanoic acid (PFOA)	3.9		0.38	0.13	ug/Kg	☼	05/14/18 13:10	05/29/18 03:32	1
Perfluorononanoic acid (PFNA)	0.25	U M U	0.38	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 03:32	1
Perfluorobutanesulfonic acid (PFBS)	0.31	J	0.50	0.074	ug/Kg	☼	05/14/18 13:10	05/29/18 03:32	1
Perfluorohexanesulfonic acid (PFHxS)	18		0.38	0.078	ug/Kg	☼	05/14/18 13:10	05/29/18 03:32	1
Perfluorooctanesulfonic acid (PFOS)	240	E *	1.3	0.30	ug/Kg	☼	05/14/18 13:10	05/29/18 03:32	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	74		50 - 150				05/14/18 13:10	05/29/18 03:32	1
13C4-PFHpA	82		50 - 150				05/14/18 13:10	05/29/18 03:32	1
13C4 PFOA	86		50 - 150				05/14/18 13:10	05/29/18 03:32	1
13C5 PFNA	60		50 - 150				05/14/18 13:10	05/29/18 03:32	1
18O2 PFHxS	78		50 - 150				05/14/18 13:10	05/29/18 03:32	1
13C4 PFOS	48	Q	50 - 150				05/14/18 13:10	05/29/18 03:32	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5.0	U *	7.5	2.0	ug/Kg	☼	05/14/18 13:10	05/29/18 11:07	20
Perfluorooctanoic acid (PFOA)	3.9	J D M *	7.5	2.5	ug/Kg	☼	05/14/18 13:10	05/29/18 11:07	20
Perfluorononanoic acid (PFNA)	5.0	U *	7.5	2.0	ug/Kg	☼	05/14/18 13:10	05/29/18 11:07	20
Perfluorobutanesulfonic acid (PFBS)	4.5	U *	10	1.5	ug/Kg	☼	05/14/18 13:10	05/29/18 11:07	20
Perfluorohexanesulfonic acid (PFHxS)	17	D *	7.5	1.6	ug/Kg	☼	05/14/18 13:10	05/29/18 11:07	20
Perfluorooctanesulfonic acid (PFOS)	430	D J K01	25	6.0	ug/Kg	☼	05/14/18 13:10	05/29/18 11:07	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	79	M	50 - 150				05/14/18 13:10	05/29/18 11:07	20
13C4-PFHpA	89		50 - 150				05/14/18 13:10	05/29/18 11:07	20
13C4 PFOA	90		50 - 150				05/14/18 13:10	05/29/18 11:07	20
13C5 PFNA	90		50 - 150				05/14/18 13:10	05/29/18 11:07	20
18O2 PFHxS	82		50 - 150				05/14/18 13:10	05/29/18 11:07	20
13C4 PFOS	74		50 - 150				05/14/18 13:10	05/29/18 11:07	20

**Client Sample ID: KLA-01-SB1-02**

**Date Collected: 05/02/18 14:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-10**

**Matrix: Solid**

**Percent Solids: 77.4**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.32	J	0.38	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 03:40	1
Perfluorooctanoic acid (PFOA)	1.0		0.38	0.13	ug/Kg	☼	05/14/18 13:10	05/29/18 03:40	1
Perfluorononanoic acid (PFNA)	0.26	U M U	0.38	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 03:40	1
Perfluorobutanesulfonic acid (PFBS)	0.31	J	0.51	0.075	ug/Kg	☼	05/14/18 13:10	05/29/18 03:40	1
Perfluorohexanesulfonic acid (PFHxS)	9.1		0.38	0.079	ug/Kg	☼	05/14/18 13:10	05/29/18 03:40	1
Perfluorooctanesulfonic acid (PFOS)	150	E *	1.3	0.31	ug/Kg	☼	05/14/18 13:10	05/29/18 03:40	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA-01-SB1-02**

**Date Collected: 05/02/18 14:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-10**

**Matrix: Solid**

**Percent Solids: 77.4**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	69		50 - 150	05/14/18 13:10	05/29/18 03:40	1
13C4-PFHpA	83		50 - 150	05/14/18 13:10	05/29/18 03:40	1
13C4 PFOA	82		50 - 150	05/14/18 13:10	05/29/18 03:40	1
13C5 PFNA	67		50 - 150	05/14/18 13:10	05/29/18 03:40	1
18O2 PFHxS	75		50 - 150	05/14/18 13:10	05/29/18 03:40	1
13C4 PFOS	54		50 - 150	05/14/18 13:10	05/29/18 03:40	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5.1	U *	7.7	2.0	ug/Kg	☼	05/14/18 13:10	05/29/18 11:15	20
Perfluorooctanoic acid (PFOA)	5.1	U M *	7.7	2.6	ug/Kg	☼	05/14/18 13:10	05/29/18 11:15	20
Perfluorononanoic acid (PFNA)	5.1	U *	7.7	2.1	ug/Kg	☼	05/14/18 13:10	05/29/18 11:15	20
Perfluorobutanesulfonic acid (PFBS)	4.6	U M *	10	1.5	ug/Kg	☼	05/14/18 13:10	05/29/18 11:15	20
Perfluorohexanesulfonic acid (PFHxS)	9.1	D *	7.7	1.6	ug/Kg	☼	05/14/18 13:10	05/29/18 11:15	20
Perfluorooctanesulfonic acid (PFOS)	210	D J K01	26	6.1	ug/Kg	☼	05/14/18 13:10	05/29/18 11:15	20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	71	M	50 - 150	05/14/18 13:10	05/29/18 11:15	20
13C4-PFHpA	78		50 - 150	05/14/18 13:10	05/29/18 11:15	20
13C4 PFOA	89		50 - 150	05/14/18 13:10	05/29/18 11:15	20
13C5 PFNA	79		50 - 150	05/14/18 13:10	05/29/18 11:15	20
18O2 PFHxS	70		50 - 150	05/14/18 13:10	05/29/18 11:15	20
13C4 PFOS	63		50 - 150	05/14/18 13:10	05/29/18 11:15	20

**Client Sample ID: KLA-01-SB2-01**

**Date Collected: 05/02/18 13:15**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-11**

**Matrix: Solid**

**Percent Solids: 87.9**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.22	U	0.34	0.088	ug/Kg	☼	05/14/18 13:10	05/29/18 03:48	1
Perfluorooctanoic acid (PFOA)	0.30	J	0.34	0.11	ug/Kg	☼	05/14/18 13:10	05/29/18 03:48	1
Perfluorononanoic acid (PFNA)	0.22	U	0.34	0.091	ug/Kg	☼	05/14/18 13:10	05/29/18 03:48	1
Perfluorobutanesulfonic acid (PFBS)	0.072	J	0.45	0.066	ug/Kg	☼	05/14/18 13:10	05/29/18 03:48	1
Perfluorohexanesulfonic acid (PFHxS)	1.5		0.34	0.070	ug/Kg	☼	05/14/18 13:10	05/29/18 03:48	1
Perfluorooctanesulfonic acid (PFOS)	1.7		1.1	0.27	ug/Kg	☼	05/14/18 13:10	05/29/18 03:48	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	68		50 - 150	05/14/18 13:10	05/29/18 03:48	1
13C4-PFHpA	84		50 - 150	05/14/18 13:10	05/29/18 03:48	1
13C4 PFOA	88		50 - 150	05/14/18 13:10	05/29/18 03:48	1
13C5 PFNA	92		50 - 150	05/14/18 13:10	05/29/18 03:48	1
18O2 PFHxS	71		50 - 150	05/14/18 13:10	05/29/18 03:48	1
13C4 PFOS	72		50 - 150	05/14/18 13:10	05/29/18 03:48	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA-01-SB2-02**

**Date Collected: 05/02/18 13:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-12**

**Matrix: Solid**

**Percent Solids: 75.7**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.14	J	0.39	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 03:56	1
Perfluorooctanoic acid (PFOA)	0.39		0.39	0.13	ug/Kg	☼	05/14/18 13:10	05/29/18 03:56	1
Perfluorononanoic acid (PFNA)	0.26	U M U	0.39	0.11	ug/Kg	☼	05/14/18 13:10	05/29/18 03:56	1
Perfluorobutanesulfonic acid (PFBS)	0.15	J	0.52	0.077	ug/Kg	☼	05/14/18 13:10	05/29/18 03:56	1
Perfluorohexanesulfonic acid (PFHxS)	2.4		0.39	0.081	ug/Kg	☼	05/14/18 13:10	05/29/18 03:56	1
Perfluorooctanesulfonic acid (PFOS)	3.2	M =	1.3	0.31	ug/Kg	☼	05/14/18 13:10	05/29/18 03:56	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	71		50 - 150				05/14/18 13:10	05/29/18 03:56	1
13C4-PFHpA	83		50 - 150				05/14/18 13:10	05/29/18 03:56	1
13C4 PFOA	84		50 - 150				05/14/18 13:10	05/29/18 03:56	1
13C5 PFNA	87		50 - 150				05/14/18 13:10	05/29/18 03:56	1
18O2 PFHxS	76		50 - 150				05/14/18 13:10	05/29/18 03:56	1
13C4 PFOS	74		50 - 150				05/14/18 13:10	05/29/18 03:56	1

**Client Sample ID: KLA-01-SB3-01**

**Date Collected: 05/02/18 14:25**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-13**

**Matrix: Solid**

**Percent Solids: 77.4**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.25	U	0.38	0.099	ug/Kg	☼	05/14/18 13:10	05/29/18 04:04	1
Perfluorooctanoic acid (PFOA)	0.22	J	0.38	0.13	ug/Kg	☼	05/14/18 13:10	05/29/18 04:04	1
Perfluorononanoic acid (PFNA)	0.25	U M U	0.38	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 04:04	1
Perfluorobutanesulfonic acid (PFBS)	0.13	J	0.51	0.075	ug/Kg	☼	05/14/18 13:10	05/29/18 04:04	1
Perfluorohexanesulfonic acid (PFHxS)	1.3	U F06	0.38	0.079	ug/Kg	☼	05/14/18 13:10	05/29/18 04:04	1
Perfluorooctanesulfonic acid (PFOS)	10		1.3	0.30	ug/Kg	☼	05/14/18 13:10	05/29/18 04:04	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	67		50 - 150				05/14/18 13:10	05/29/18 04:04	1
13C4-PFHpA	82		50 - 150				05/14/18 13:10	05/29/18 04:04	1
13C4 PFOA	84		50 - 150				05/14/18 13:10	05/29/18 04:04	1
13C5 PFNA	84		50 - 150				05/14/18 13:10	05/29/18 04:04	1
18O2 PFHxS	73		50 - 150				05/14/18 13:10	05/29/18 04:04	1
13C4 PFOS	68		50 - 150				05/14/18 13:10	05/29/18 04:04	1

**Client Sample ID: KLA-01-SB3-02**

**Date Collected: 05/02/18 14:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-14**

**Matrix: Solid**

**Percent Solids: 78.1**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.25	U	0.38	0.099	ug/Kg	☼	05/14/18 13:10	05/29/18 04:12	1
Perfluorooctanoic acid (PFOA)	0.25	U	0.38	0.13	ug/Kg	☼	05/14/18 13:10	05/29/18 04:12	1
Perfluorononanoic acid (PFNA)	0.25	U	0.38	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 04:12	1
Perfluorobutanesulfonic acid (PFBS)	0.23	U	0.51	0.075	ug/Kg	☼	05/14/18 13:10	05/29/18 04:12	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA-01-SB3-02**

**Date Collected: 05/02/18 14:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-14**

**Matrix: Solid**

**Percent Solids: 78.1**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	0.32	J	0.38	0.078	ug/Kg	☼	05/14/18 13:10	05/29/18 04:12	1
Perfluorooctanesulfonic acid (PFOS)	1.1	J	1.3	0.30	ug/Kg	☼	05/14/18 13:10	05/29/18 04:12	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	67		50 - 150				05/14/18 13:10	05/29/18 04:12	1
13C4-PFHpA	80		50 - 150				05/14/18 13:10	05/29/18 04:12	1
13C4 PFOA	80		50 - 150				05/14/18 13:10	05/29/18 04:12	1
13C5 PFNA	82		50 - 150				05/14/18 13:10	05/29/18 04:12	1
18O2 PFHxS	70		50 - 150				05/14/18 13:10	05/29/18 04:12	1
13C4 PFOS	64		50 - 150				05/14/18 13:10	05/29/18 04:12	1

**Client Sample ID: KLA02-SB1-01**

**Date Collected: 05/04/18 13:40**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-15**

**Matrix: Solid**

**Percent Solids: 77.4**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.16	J	0.39	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 07:43	1
Perfluorooctanoic acid (PFOA)	0.46	M =	0.39	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 07:43	1
Perfluorononanoic acid (PFNA)	0.26	U	0.39	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 07:43	1
Perfluorobutanesulfonic acid (PFBS)	0.25	J	0.52	0.077	ug/Kg	☼	05/14/18 14:03	05/29/18 07:43	1
Perfluorohexanesulfonic acid (PFHxS)	2.6		0.39	0.081	ug/Kg	☼	05/14/18 14:03	05/29/18 07:43	1
Perfluorooctanesulfonic acid (PFOS)	7.6	J1 J H02	1.3	0.31	ug/Kg	☼	05/14/18 14:03	05/29/18 07:43	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	81		50 - 150				05/14/18 14:03	05/29/18 07:43	1
13C4-PFHpA	93		50 - 150				05/14/18 14:03	05/29/18 07:43	1
13C4 PFOA	93		50 - 150				05/14/18 14:03	05/29/18 07:43	1
13C5 PFNA	100		50 - 150				05/14/18 14:03	05/29/18 07:43	1
18O2 PFHxS	88		50 - 150				05/14/18 14:03	05/29/18 07:43	1
13C4 PFOS	86		50 - 150				05/14/18 14:03	05/29/18 07:43	1

**Client Sample ID: KLA02-SB1-02**

**Date Collected: 05/04/18 13:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-16**

**Matrix: Solid**

**Percent Solids: 80.8**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.18	J	0.36	0.095	ug/Kg	☼	05/14/18 14:03	05/29/18 08:07	1
Perfluorooctanoic acid (PFOA)	0.28	J M J	0.36	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 08:07	1
Perfluorononanoic acid (PFNA)	0.24	U M U	0.36	0.098	ug/Kg	☼	05/14/18 14:03	05/29/18 08:07	1
Perfluorobutanesulfonic acid (PFBS)	0.22	J	0.49	0.072	ug/Kg	☼	05/14/18 14:03	05/29/18 08:07	1
Perfluorohexanesulfonic acid (PFHxS)	1.6		0.36	0.075	ug/Kg	☼	05/14/18 14:03	05/29/18 08:07	1
Perfluorooctanesulfonic acid (PFOS)	6.1		1.2	0.29	ug/Kg	☼	05/14/18 14:03	05/29/18 08:07	1

TestAmerica Sacramento



# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA02-SB1-02**

**Date Collected: 05/04/18 13:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-16**

**Matrix: Solid**

**Percent Solids: 80.8**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	71		50 - 150	05/14/18 14:03	05/29/18 08:07	1
13C4-PFHpa	81		50 - 150	05/14/18 14:03	05/29/18 08:07	1
13C4 PFOA	84		50 - 150	05/14/18 14:03	05/29/18 08:07	1
13C5 PFNA	85		50 - 150	05/14/18 14:03	05/29/18 08:07	1
18O2 PFHxS	77		50 - 150	05/14/18 14:03	05/29/18 08:07	1
13C4 PFOS	76		50 - 150	05/14/18 14:03	05/29/18 08:07	1

**Client Sample ID: KLA02-SB2-01**

**Date Collected: 05/04/18 13:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-17**

**Matrix: Solid**

**Percent Solids: 79.0**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.1		0.37	0.097	ug/Kg	☼	05/14/18 14:03	05/29/18 08:14	1
Perfluorooctanoic acid (PFOA)	2.2		0.37	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 08:14	1
Perfluorononanoic acid (PFNA)	0.38		0.37	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 08:14	1
Perfluorobutanesulfonic acid (PFBS)	5.1		0.50	0.074	ug/Kg	☼	05/14/18 14:03	05/29/18 08:14	1
Perfluorohexanesulfonic acid (PFHxS)	21		0.37	0.077	ug/Kg	☼	05/14/18 14:03	05/29/18 08:14	1
Perfluorooctanesulfonic acid (PFOS)	270	E *	1.2	0.30	ug/Kg	☼	05/14/18 14:03	05/29/18 08:14	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	78		50 - 150				05/14/18 14:03	05/29/18 08:14	1
13C4-PFHpA	85		50 - 150				05/14/18 14:03	05/29/18 08:14	1
13C4 PFOA	94		50 - 150				05/14/18 14:03	05/29/18 08:14	1
13C5 PFNA	66		50 - 150				05/14/18 14:03	05/29/18 08:14	1
18O2 PFHxS	78		50 - 150				05/14/18 14:03	05/29/18 08:14	1
13C4 PFOS	55		50 - 150				05/14/18 14:03	05/29/18 08:14	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	25	U *	37	9.7	ug/Kg	☼	05/14/18 14:03	05/29/18 15:02	100
Perfluorooctanoic acid (PFOA)	25	U *	37	12	ug/Kg	☼	05/14/18 14:03	05/29/18 15:02	100
Perfluorononanoic acid (PFNA)	25	U *	37	10	ug/Kg	☼	05/14/18 14:03	05/29/18 15:02	100
Perfluorobutanesulfonic acid (PFBS)	22	U *	50	7.4	ug/Kg	☼	05/14/18 14:03	05/29/18 15:02	100
Perfluorohexanesulfonic acid (PFHxS)	21	J D *	37	7.7	ug/Kg	☼	05/14/18 14:03	05/29/18 15:02	100
Perfluorooctanesulfonic acid (PFOS)	390	D J K01	120	30	ug/Kg	☼	05/14/18 14:03	05/29/18 15:02	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	94	M	50 - 150				05/14/18 14:03	05/29/18 15:02	100
13C4-PFHpA	72		50 - 150				05/14/18 14:03	05/29/18 15:02	100
13C4 PFOA	87		50 - 150				05/14/18 14:03	05/29/18 15:02	100
13C5 PFNA	84		50 - 150				05/14/18 14:03	05/29/18 15:02	100
18O2 PFHxS	66		50 - 150				05/14/18 14:03	05/29/18 15:02	100
13C4 PFOS	68		50 - 150				05/14/18 14:03	05/29/18 15:02	100

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA02-SB2-02**

**Lab Sample ID: 320-39023-18**

**Date Collected: 05/04/18 13:25**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 59.2**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	6.0		0.51	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 08:22	1
Perfluorooctanoic acid (PFOA)	18		0.51	0.17	ug/Kg	☼	05/14/18 14:03	05/29/18 08:22	1
Perfluorononanoic acid (PFNA)	0.30	J	0.51	0.14	ug/Kg	☼	05/14/18 14:03	05/29/18 08:22	1
Perfluorobutanesulfonic acid (PFBS)	26		0.68	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 08:22	1
Perfluorohexanesulfonic acid (PFHxS)	110	E *	0.51	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 08:22	1
Perfluorooctanesulfonic acid (PFOS)	410	E *	1.7	0.41	ug/Kg	☼	05/14/18 14:03	05/29/18 08:22	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	82		50 - 150				05/14/18 14:03	05/29/18 08:22	1
13C4-PFHpA	78		50 - 150				05/14/18 14:03	05/29/18 08:22	1
13C4 PFOA	89		50 - 150				05/14/18 14:03	05/29/18 08:22	1
13C5 PFNA	71		50 - 150				05/14/18 14:03	05/29/18 08:22	1
18O2 PFHxS	72		50 - 150				05/14/18 14:03	05/29/18 08:22	1
13C4 PFOS	60		50 - 150				05/14/18 14:03	05/29/18 08:22	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	6.4	J D *	10	2.6	ug/Kg	☼	05/14/18 14:03	05/29/18 17:07	20
Perfluorooctanoic acid (PFOA)	17	D *	10	3.4	ug/Kg	☼	05/14/18 14:03	05/29/18 17:07	20
Perfluorononanoic acid (PFNA)	6.8	U *	10	2.7	ug/Kg	☼	05/14/18 14:03	05/29/18 17:07	20
Perfluorobutanesulfonic acid (PFBS)	30	D *	14	2.0	ug/Kg	☼	05/14/18 14:03	05/29/18 17:07	20
Perfluorohexanesulfonic acid (PFHxS)	130	D J K01	10	2.1	ug/Kg	☼	05/14/18 14:03	05/29/18 17:07	20
Perfluorooctanesulfonic acid (PFOS)	570	D M J K01	34	8.1	ug/Kg	☼	05/14/18 14:03	05/29/18 17:07	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	71		50 - 150				05/14/18 14:03	05/29/18 17:07	20
13C4-PFHpA	78		50 - 150				05/14/18 14:03	05/29/18 17:07	20
13C4 PFOA	91		50 - 150				05/14/18 14:03	05/29/18 17:07	20
13C5 PFNA	86		50 - 150				05/14/18 14:03	05/29/18 17:07	20
18O2 PFHxS	82		50 - 150				05/14/18 14:03	05/29/18 17:07	20
13C4 PFOS	71		50 - 150				05/14/18 14:03	05/29/18 17:07	20

**Client Sample ID: KLA02-SB3-01**

**Lab Sample ID: 320-39023-19**

**Date Collected: 05/04/18 13:55**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 83.8**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.47		0.36	0.094	ug/Kg	☼	05/14/18 14:03	05/29/18 08:30	1
Perfluorooctanoic acid (PFOA)	0.45		0.36	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 08:30	1
Perfluorononanoic acid (PFNA)	0.40		0.36	0.098	ug/Kg	☼	05/14/18 14:03	05/29/18 08:30	1
Perfluorobutanesulfonic acid (PFBS)	0.50		0.48	0.071	ug/Kg	☼	05/14/18 14:03	05/29/18 08:30	1
Perfluorohexanesulfonic acid (PFHxS)	5.4		0.36	0.075	ug/Kg	☼	05/14/18 14:03	05/29/18 08:30	1
Perfluorooctanesulfonic acid (PFOS)	110	E M *	1.2	0.29	ug/Kg	☼	05/14/18 14:03	05/29/18 08:30	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA02-SB3-01**

**Date Collected: 05/04/18 13:55**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-19**

**Matrix: Solid**

**Percent Solids: 83.8**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	78		50 - 150	05/14/18 14:03	05/29/18 08:30	1
13C4-PFHpA	86		50 - 150	05/14/18 14:03	05/29/18 08:30	1
13C4 PFOA	92		50 - 150	05/14/18 14:03	05/29/18 08:30	1
13C5 PFNA	85		50 - 150	05/14/18 14:03	05/29/18 08:30	1
18O2 PFHxS	82		50 - 150	05/14/18 14:03	05/29/18 08:30	1
13C4 PFOS	68		50 - 150	05/14/18 14:03	05/29/18 08:30	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	4.8	U *	7.2	1.9	ug/Kg	☼	05/14/18 14:03	05/29/18 14:30	20
Perfluorooctanoic acid (PFOA)	4.8	U *	7.2	2.4	ug/Kg	☼	05/14/18 14:03	05/29/18 14:30	20
Perfluorononanoic acid (PFNA)	4.8	U *	7.2	2.0	ug/Kg	☼	05/14/18 14:03	05/29/18 14:30	20
Perfluorobutanesulfonic acid (PFBS)	4.3	U *	9.6	1.4	ug/Kg	☼	05/14/18 14:03	05/29/18 14:30	20
Perfluorohexanesulfonic acid (PFHxS)	5.7	J D *	7.2	1.5	ug/Kg	☼	05/14/18 14:03	05/29/18 14:30	20
Perfluorooctanesulfonic acid (PFOS)	140	D J K01	24	5.8	ug/Kg	☼	05/14/18 14:03	05/29/18 14:30	20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	77	M	50 - 150	05/14/18 14:03	05/29/18 14:30	20
13C4-PFHpA	84		50 - 150	05/14/18 14:03	05/29/18 14:30	20
13C4 PFOA	91		50 - 150	05/14/18 14:03	05/29/18 14:30	20
13C5 PFNA	100		50 - 150	05/14/18 14:03	05/29/18 14:30	20
18O2 PFHxS	75		50 - 150	05/14/18 14:03	05/29/18 14:30	20
13C4 PFOS	74		50 - 150	05/14/18 14:03	05/29/18 14:30	20

**Client Sample ID: KLA02-SB3-02**

**Date Collected: 05/04/18 14:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-20**

**Matrix: Solid**

**Percent Solids: 72.4**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.81		0.41	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 08:38	1
Perfluorooctanoic acid (PFOA)	1.0		0.41	0.14	ug/Kg	☼	05/14/18 14:03	05/29/18 08:38	1
Perfluorononanoic acid (PFNA)	0.12	J M J	0.41	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 08:38	1
Perfluorobutanesulfonic acid (PFBS)	1.8		0.55	0.081	ug/Kg	☼	05/14/18 14:03	05/29/18 08:38	1
Perfluorohexanesulfonic acid (PFHxS)	9.4		0.41	0.086	ug/Kg	☼	05/14/18 14:03	05/29/18 08:38	1
Perfluorooctanesulfonic acid (PFOS)	21	M =	1.4	0.33	ug/Kg	☼	05/14/18 14:03	05/29/18 08:38	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	75		50 - 150	05/14/18 14:03	05/29/18 08:38	1
13C4-PFHpA	80		50 - 150	05/14/18 14:03	05/29/18 08:38	1
13C4 PFOA	90		50 - 150	05/14/18 14:03	05/29/18 08:38	1
13C5 PFNA	92		50 - 150	05/14/18 14:03	05/29/18 08:38	1
18O2 PFHxS	80		50 - 150	05/14/18 14:03	05/29/18 08:38	1
13C4 PFOS	76		50 - 150	05/14/18 14:03	05/29/18 08:38	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA03-SB1-01**

**Lab Sample ID: 320-39023-21**

**Date Collected: 05/01/18 09:00**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 77.7**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.26	U	0.39	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 04:19	1
Perfluorooctanoic acid (PFOA)	0.26	U M U	0.39	0.13	ug/Kg	☼	05/14/18 13:10	05/29/18 04:19	1
Perfluorononanoic acid (PFNA)	0.26	U	0.39	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 04:19	1
Perfluorobutanesulfonic acid (PFBS)	0.082	J	0.52	0.076	ug/Kg	☼	05/14/18 13:10	05/29/18 04:19	1
Perfluorohexanesulfonic acid (PFHxS)	0.99		0.39	0.080	ug/Kg	☼	05/14/18 13:10	05/29/18 04:19	1
Perfluorooctanesulfonic acid (PFOS)	3.0		1.3	0.31	ug/Kg	☼	05/14/18 13:10	05/29/18 04:19	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	68		50 - 150				05/14/18 13:10	05/29/18 04:19	1
13C4-PFHpA	83		50 - 150				05/14/18 13:10	05/29/18 04:19	1
13C4 PFOA	85		50 - 150				05/14/18 13:10	05/29/18 04:19	1
13C5 PFNA	83		50 - 150				05/14/18 13:10	05/29/18 04:19	1
18O2 PFHxS	71		50 - 150				05/14/18 13:10	05/29/18 04:19	1
13C4 PFOS	69		50 - 150				05/14/18 13:10	05/29/18 04:19	1

**Client Sample ID: KLA03-SB1-02**

**Lab Sample ID: 320-39023-22**

**Date Collected: 05/01/18 09:05**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 74.7**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.26	U	0.40	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 04:27	1
Perfluorooctanoic acid (PFOA)	0.22	J M J	0.40	0.13	ug/Kg	☼	05/14/18 13:10	05/29/18 04:27	1
Perfluorononanoic acid (PFNA)	0.26	U	0.40	0.11	ug/Kg	☼	05/14/18 13:10	05/29/18 04:27	1
Perfluorobutanesulfonic acid (PFBS)	0.21	J	0.53	0.078	ug/Kg	☼	05/14/18 13:10	05/29/18 04:27	1
Perfluorohexanesulfonic acid (PFHxS)	2.4		0.40	0.082	ug/Kg	☼	05/14/18 13:10	05/29/18 04:27	1
Perfluorooctanesulfonic acid (PFOS)	17		1.3	0.32	ug/Kg	☼	05/14/18 13:10	05/29/18 04:27	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	70		50 - 150				05/14/18 13:10	05/29/18 04:27	1
13C4-PFHpA	83		50 - 150				05/14/18 13:10	05/29/18 04:27	1
13C4 PFOA	87		50 - 150				05/14/18 13:10	05/29/18 04:27	1
13C5 PFNA	91		50 - 150				05/14/18 13:10	05/29/18 04:27	1
18O2 PFHxS	74		50 - 150				05/14/18 13:10	05/29/18 04:27	1
13C4 PFOS	71		50 - 150				05/14/18 13:10	05/29/18 04:27	1

**Client Sample ID: KLA03-SB2-01**

**Lab Sample ID: 320-39023-23**

**Date Collected: 05/02/18 12:15**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 81.0**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.25	U	0.37	0.096	ug/Kg	☼	05/14/18 13:10	06/06/18 22:47	1
Perfluorooctanoic acid (PFOA)	0.15	J	0.37	0.12	ug/Kg	☼	05/14/18 13:10	06/06/18 22:47	1
Perfluorononanoic acid (PFNA)	0.25	U M U	0.37	0.099	ug/Kg	☼	05/14/18 13:10	06/06/18 22:47	1
Perfluorobutanesulfonic acid (PFBS)	0.10	J	0.49	0.072	ug/Kg	☼	05/14/18 13:10	06/06/18 22:47	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA03-SB2-01**

**Date Collected: 05/02/18 12:15**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-23**

**Matrix: Solid**

**Percent Solids: 81.0**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	0.71		0.37	0.076	ug/Kg	☼	05/14/18 13:10	06/06/18 22:47	1
Perfluorooctanesulfonic acid (PFOS)	3.4		1.2	0.29	ug/Kg	☼	05/14/18 13:10	06/06/18 22:47	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	69		50 - 150				05/14/18 13:10	06/06/18 22:47	1
13C4-PFHpA	83		50 - 150				05/14/18 13:10	06/06/18 22:47	1
13C4 PFOA	83		50 - 150				05/14/18 13:10	06/06/18 22:47	1
13C5 PFNA	81		50 - 150				05/14/18 13:10	06/06/18 22:47	1
18O2 PFHxS	73		50 - 150				05/14/18 13:10	06/06/18 22:47	1
13C4 PFOS	72		50 - 150				05/14/18 13:10	06/06/18 22:47	1

**Client Sample ID: KLA03-SB2-02**

**Date Collected: 05/02/18 12:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-24**

**Matrix: Solid**

**Percent Solids: 77.2**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.26	U	0.38	0.10	ug/Kg	☼	05/14/18 13:10	06/06/18 22:55	1
Perfluorooctanoic acid (PFOA)	0.15	J	0.38	0.13	ug/Kg	☼	05/14/18 13:10	06/06/18 22:55	1
Perfluorononanoic acid (PFNA)	0.26	U	0.38	0.10	ug/Kg	☼	05/14/18 13:10	06/06/18 22:55	1
Perfluorobutanesulfonic acid (PFBS)	0.15	J	0.51	0.075	ug/Kg	☼	05/14/18 13:10	06/06/18 22:55	1
Perfluorohexanesulfonic acid (PFHxS)	1.1		0.38	0.079	ug/Kg	☼	05/14/18 13:10	06/06/18 22:55	1
Perfluorooctanesulfonic acid (PFOS)	4.9	M =	1.3	0.31	ug/Kg	☼	05/14/18 13:10	06/06/18 22:55	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	68		50 - 150				05/14/18 13:10	06/06/18 22:55	1
13C4-PFHpA	83		50 - 150				05/14/18 13:10	06/06/18 22:55	1
13C4 PFOA	82		50 - 150				05/14/18 13:10	06/06/18 22:55	1
13C5 PFNA	78		50 - 150				05/14/18 13:10	06/06/18 22:55	1
18O2 PFHxS	75		50 - 150				05/14/18 13:10	06/06/18 22:55	1
13C4 PFOS	70		50 - 150				05/14/18 13:10	06/06/18 22:55	1

**Client Sample ID: KLA03-SB3-01**

**Date Collected: 05/01/18 08:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-25**

**Matrix: Solid**

**Percent Solids: 74.9**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.36	J	0.41	0.11	ug/Kg	☼	05/14/18 13:10	06/06/18 23:03	1
Perfluorooctanoic acid (PFOA)	0.37	J	0.41	0.14	ug/Kg	☼	05/14/18 13:10	06/06/18 23:03	1
Perfluorononanoic acid (PFNA)	0.27	U M U	0.41	0.11	ug/Kg	☼	05/14/18 13:10	06/06/18 23:03	1
Perfluorobutanesulfonic acid (PFBS)	0.21	J	0.54	0.080	ug/Kg	☼	05/14/18 13:10	06/06/18 23:03	1
Perfluorohexanesulfonic acid (PFHxS)	2.7		0.41	0.084	ug/Kg	☼	05/14/18 13:10	06/06/18 23:03	1
Perfluorooctanesulfonic acid (PFOS)	3.2		1.4	0.32	ug/Kg	☼	05/14/18 13:10	06/06/18 23:03	1

TestAmerica Sacramento



# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA03-SB3-01**

**Date Collected: 05/01/18 08:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-25**

**Matrix: Solid**

**Percent Solids: 74.9**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	78		50 - 150	05/14/18 13:10	06/06/18 23:03	1
13C4-PFHpA	85		50 - 150	05/14/18 13:10	06/06/18 23:03	1
13C4 PFOA	85		50 - 150	05/14/18 13:10	06/06/18 23:03	1
13C5 PFNA	87		50 - 150	05/14/18 13:10	06/06/18 23:03	1
18O2 PFHxS	83		50 - 150	05/14/18 13:10	06/06/18 23:03	1
13C4 PFOS	79		50 - 150	05/14/18 13:10	06/06/18 23:03	1

**Client Sample ID: KLA03-SB3-02**

**Date Collected: 05/01/18 08:50**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-26**

**Matrix: Solid**

**Percent Solids: 73.6**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.59		0.41	0.11	ug/Kg	☼	05/14/18 13:10	06/06/18 23:10	1
Perfluorooctanoic acid (PFOA)	1.3		0.41	0.14	ug/Kg	☼	05/14/18 13:10	06/06/18 23:10	1
Perfluorononanoic acid (PFNA)	0.27	U	0.41	0.11	ug/Kg	☼	05/14/18 13:10	06/06/18 23:10	1
Perfluorobutanesulfonic acid (PFBS)	0.75		0.54	0.080	ug/Kg	☼	05/14/18 13:10	06/06/18 23:10	1
Perfluorohexanesulfonic acid (PFHxS)	12		0.41	0.084	ug/Kg	☼	05/14/18 13:10	06/06/18 23:10	1
Perfluorooctanesulfonic acid (PFOS)	14	M =	1.4	0.32	ug/Kg	☼	05/14/18 13:10	06/06/18 23:10	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	77		50 - 150				05/14/18 13:10	06/06/18 23:10	1
13C4-PFHpA	85		50 - 150				05/14/18 13:10	06/06/18 23:10	1
13C4 PFOA	84		50 - 150				05/14/18 13:10	06/06/18 23:10	1
13C5 PFNA	83		50 - 150				05/14/18 13:10	06/06/18 23:10	1
18O2 PFHxS	79		50 - 150				05/14/18 13:10	06/06/18 23:10	1
13C4 PFOS	76		50 - 150				05/14/18 13:10	06/06/18 23:10	1

**Client Sample ID: KLA04-SB1-01**

**Date Collected: 05/04/18 08:35**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-27**

**Matrix: Solid**

**Percent Solids: 72.6**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.66		0.42	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 08:54	1
Perfluorooctanoic acid (PFOA)	3.2		0.42	0.14	ug/Kg	☼	05/14/18 14:03	05/29/18 08:54	1
Perfluorononanoic acid (PFNA)	0.16	J M J G02	0.42	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 08:54	1
Perfluorobutanesulfonic acid (PFBS)	0.45	J	0.56	0.082	ug/Kg	☼	05/14/18 14:03	05/29/18 08:54	1
Perfluorohexanesulfonic acid (PFHxS)	24		0.42	0.086	ug/Kg	☼	05/14/18 14:03	05/29/18 08:54	1
Perfluorooctanesulfonic acid (PFOS)	930	E *	1.4	0.33	ug/Kg	☼	05/14/18 14:03	05/29/18 08:54	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	87		50 - 150				05/14/18 14:03	05/29/18 08:54	1
13C4-PFHpA	98		50 - 150				05/14/18 14:03	05/29/18 08:54	1
13C4 PFOA	88		50 - 150				05/14/18 14:03	05/29/18 08:54	1
13C5 PFNA	37	Q	50 - 150				05/14/18 14:03	05/29/18 08:54	1
18O2 PFHxS	87		50 - 150				05/14/18 14:03	05/29/18 08:54	1
13C4 PFOS	30	Q	50 - 150				05/14/18 14:03	05/29/18 08:54	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	28	U *	42	11	ug/Kg	☼	05/14/18 14:03	05/29/18 15:33	100
Perfluorooctanoic acid (PFOA)	28	U M *	42	14	ug/Kg	☼	05/14/18 14:03	05/29/18 15:33	100
Perfluorononanoic acid (PFNA)	28	U *	42	11	ug/Kg	☼	05/14/18 14:03	05/29/18 15:33	100
Perfluorobutanesulfonic acid (PFBS)	25	U *	56	8.2	ug/Kg	☼	05/14/18 14:03	05/29/18 15:33	100
Perfluorohexanesulfonic acid (PFHxS)	23	J D *	42	8.6	ug/Kg	☼	05/14/18 14:03	05/29/18 15:33	100
Perfluorooctanesulfonic acid (PFOS)	2200	D J K01	140	33	ug/Kg	☼	05/14/18 14:03	05/29/18 15:33	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	99	M	50 - 150				05/14/18 14:03	05/29/18 15:33	100
13C4-PFHpA	77		50 - 150				05/14/18 14:03	05/29/18 15:33	100
13C4 PFOA	93		50 - 150				05/14/18 14:03	05/29/18 15:33	100
13C5 PFNA	79		50 - 150				05/14/18 14:03	05/29/18 15:33	100
18O2 PFHxS	67		50 - 150				05/14/18 14:03	05/29/18 15:33	100
13C4 PFOS	70		50 - 150				05/14/18 14:03	05/29/18 15:33	100

Client Sample ID: KLA04-SB1-02

Date Collected: 05/04/18 08:40

Date Received: 05/09/18 09:20

Lab Sample ID: 320-39023-28

Matrix: Solid

Percent Solids: 77.2

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	4.4		0.39	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 09:02	1
Perfluorooctanoic acid (PFOA)	19		0.39	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 09:02	1
Perfluorononanoic acid (PFNA)	0.60	M = J G02	0.39	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 09:02	1
Perfluorobutanesulfonic acid (PFBS)	14		0.52	0.077	ug/Kg	☼	05/14/18 14:03	05/29/18 09:02	1
Perfluorohexanesulfonic acid (PFHxS)	130	E *	0.39	0.081	ug/Kg	☼	05/14/18 14:03	05/29/18 09:02	1
Perfluorooctanesulfonic acid (PFOS)	1800	E M *	1.3	0.31	ug/Kg	☼	05/14/18 14:03	05/29/18 09:02	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	95		50 - 150				05/14/18 14:03	05/29/18 09:02	1
13C4-PFHpA	85		50 - 150				05/14/18 14:03	05/29/18 09:02	1
13C4 PFOA	84		50 - 150				05/14/18 14:03	05/29/18 09:02	1
13C5 PFNA	34	Q	50 - 150				05/14/18 14:03	05/29/18 09:02	1
18O2 PFHxS	78		50 - 150				05/14/18 14:03	05/29/18 09:02	1
13C4 PFOS	26	Q	50 - 150				05/14/18 14:03	05/29/18 09:02	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	4.0	J D *	7.8	2.0	ug/Kg	☼	05/14/18 14:03	05/29/18 17:15	20
Perfluorooctanoic acid (PFOA)	19	D *	7.8	2.6	ug/Kg	☼	05/14/18 14:03	05/29/18 17:15	20
Perfluorononanoic acid (PFNA)	5.2	U *	7.8	2.1	ug/Kg	☼	05/14/18 14:03	05/29/18 17:15	20
Perfluorobutanesulfonic acid (PFBS)	15	D *	10	1.5	ug/Kg	☼	05/14/18 14:03	05/29/18 17:15	20
Perfluorohexanesulfonic acid (PFHxS)	190	D J K01	7.8	1.6	ug/Kg	☼	05/14/18 14:03	05/29/18 17:15	20
Perfluorooctanesulfonic acid (PFOS)	2900	E D *	26	6.3	ug/Kg	☼	05/14/18 14:03	05/29/18 17:15	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	70	M	50 - 150				05/14/18 14:03	05/29/18 17:15	20
13C4-PFHpA	84		50 - 150				05/14/18 14:03	05/29/18 17:15	20
13C4 PFOA	84		50 - 150				05/14/18 14:03	05/29/18 17:15	20
13C5 PFNA	76		50 - 150				05/14/18 14:03	05/29/18 17:15	20

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA04-SB1-02**

**Date Collected: 05/04/18 08:40**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-28**

**Matrix: Solid**

**Percent Solids: 77.2**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	71		50 - 150	05/14/18 14:03	05/29/18 17:15	20
13C4 PFOS	59		50 - 150	05/14/18 14:03	05/29/18 17:15	20

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	26	U	*	39	10 ug/Kg	☼	05/14/18 14:03	05/29/18 15:41	100
Perfluorooctanoic acid (PFOA)	17	J D	*	39	13 ug/Kg	☼	05/14/18 14:03	05/29/18 15:41	100
Perfluorononanoic acid (PFNA)	26	U	*	39	11 ug/Kg	☼	05/14/18 14:03	05/29/18 15:41	100
Perfluorobutanesulfonic acid (PFBS)	10	J D	*	52	7.7 ug/Kg	☼	05/14/18 14:03	05/29/18 15:41	100
Perfluorohexanesulfonic acid (PFHxS)	160	D	*	39	8.1 ug/Kg	☼	05/14/18 14:03	05/29/18 15:41	100
Perfluorooctanesulfonic acid (PFOS)	3600	E D M	J K01 , N08	30	31 ug/Kg	☼	05/14/18 14:03	05/29/18 15:41	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	96	M	50 - 150				05/14/18 14:03	05/29/18 15:41	100
13C4-PFHpA	80		50 - 150				05/14/18 14:03	05/29/18 15:41	100
13C4 PFOA	95		50 - 150				05/14/18 14:03	05/29/18 15:41	100
13C5 PFNA	73		50 - 150				05/14/18 14:03	05/29/18 15:41	100
18O2 PFHxS	76		50 - 150				05/14/18 14:03	05/29/18 15:41	100
13C4 PFOS	63		50 - 150				05/14/18 14:03	05/29/18 15:41	100

**Client Sample ID: KLA04-SB2-01**

**Date Collected: 05/04/18 08:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-29**

**Matrix: Solid**

**Percent Solids: 78.9**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier		LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	14			0.38	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 09:09	1
Perfluorooctanoic acid (PFOA)	27	E	*	0.38	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 09:09	1
Perfluorononanoic acid (PFNA)	1.6	M	J G02	0.38	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 09:09	1
Perfluorobutanesulfonic acid (PFBS)	24	E	*	0.51	0.075	ug/Kg	☼	05/14/18 14:03	05/29/18 09:09	1
Perfluorohexanesulfonic acid (PFHxS)	140	E	*	0.38	0.079	ug/Kg	☼	05/14/18 14:03	05/29/18 09:09	1
Perfluorooctanesulfonic acid (PFOS)	2600	E	*	1.3	0.31	ug/Kg	☼	05/14/18 14:03	05/29/18 09:09	1
Isotope Dilution	%Recovery	Qualifier		Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	96			50 - 150				05/14/18 14:03	05/29/18 09:09	1
13C4-PFHpA	88			50 - 150				05/14/18 14:03	05/29/18 09:09	1
13C4 PFOA	83			50 - 150				05/14/18 14:03	05/29/18 09:09	1
13C5 PFNA	25	Q		50 - 150				05/14/18 14:03	05/29/18 09:09	1
18O2 PFHxS	86			50 - 150				05/14/18 14:03	05/29/18 09:09	1
13C4 PFOS	18	Q		50 - 150				05/14/18 14:03	05/29/18 09:09	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	14	J D	*	38	10 ug/Kg	☼	05/14/18 14:03	05/29/18 15:49	100
Perfluorooctanoic acid (PFOA)	26	J D M J K01	38	13	ug/Kg	☼	05/14/18 14:03	05/29/18 15:49	100
Perfluorononanoic acid (PFNA)	26	U M	*	38	10 ug/Kg	☼	05/14/18 14:03	05/29/18 15:49	100

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA04-SB2-01**

**Date Collected: 05/04/18 08:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-29**

**Matrix: Solid**

**Percent Solids: 78.9**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	14	J D J K01	51	7.5	ug/Kg	☼	05/14/18 14:03	05/29/18 15:49	100
Perfluorohexanesulfonic acid (PFHxS)	200	D J K01	38	7.9	ug/Kg	☼	05/14/18 14:03	05/29/18 15:49	100
Perfluorooctanesulfonic acid (PFOS)	6600	E D J K01 , N03	130	31	ug/Kg	☼	05/14/18 14:03	05/29/18 15:49	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	111	M	50 - 150				05/14/18 14:03	05/29/18 15:49	100
13C4-PFHpA	74		50 - 150				05/14/18 14:03	05/29/18 15:49	100
13C4 PFOA	80		50 - 150				05/14/18 14:03	05/29/18 15:49	100
13C5 PFNA	68		50 - 150				05/14/18 14:03	05/29/18 15:49	100
18O2 PFHxS	64		50 - 150				05/14/18 14:03	05/29/18 15:49	100
13C4 PFOS	58		50 - 150				05/14/18 14:03	05/29/18 15:49	100

**Client Sample ID: KLA04-SB2-02**

**Date Collected: 05/04/18 08:25**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-30**

**Matrix: Solid**

**Percent Solids: 76.0**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	45	E *	0.39	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 09:17	1
Perfluorooctanoic acid (PFOA)	200	E *	0.39	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 09:17	1
Perfluorononanoic acid (PFNA)	1.6		0.39	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 09:17	1
Perfluorobutanesulfonic acid (PFBS)	91	E *	0.53	0.078	ug/Kg	☼	05/14/18 14:03	05/29/18 09:17	1
Perfluorohexanesulfonic acid (PFHxS)	510	E *	0.39	0.082	ug/Kg	☼	05/14/18 14:03	05/29/18 09:17	1
Perfluorooctanesulfonic acid (PFOS)	2100	E *	1.3	0.32	ug/Kg	☼	05/14/18 14:03	05/29/18 09:17	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	125		50 - 150				05/14/18 14:03	05/29/18 09:17	1
13C4-PFHpA	69		50 - 150				05/14/18 14:03	05/29/18 09:17	1
13C4 PFOA	82		50 - 150				05/14/18 14:03	05/29/18 09:17	1
13C5 PFNA	55		50 - 150				05/14/18 14:03	05/29/18 09:17	1
18O2 PFHxS	65		50 - 150				05/14/18 14:03	05/29/18 09:17	1
13C4 PFOS	39	Q	50 - 150				05/14/18 14:03	05/29/18 09:17	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	44	D J K01	39	10	ug/Kg	☼	05/14/18 14:03	05/29/18 15:57	100
Perfluorooctanoic acid (PFOA)	210	D J K01	39	13	ug/Kg	☼	05/14/18 14:03	05/29/18 15:57	100
Perfluorononanoic acid (PFNA)	26	U M *	39	11	ug/Kg	☼	05/14/18 14:03	05/29/18 15:57	100
Perfluorobutanesulfonic acid (PFBS)	84	D J K01	53	7.8	ug/Kg	☼	05/14/18 14:03	05/29/18 15:57	100
Perfluorohexanesulfonic acid (PFHxS)	1100	D J K01	39	8.2	ug/Kg	☼	05/14/18 14:03	05/29/18 15:57	100
Perfluorooctanesulfonic acid (PFOS)	4800	E D M J K01 , N03	30	32	ug/Kg	☼	05/14/18 14:03	05/29/18 15:57	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	133	M	50 - 150				05/14/18 14:03	05/29/18 15:57	100
13C4-PFHpA	70		50 - 150				05/14/18 14:03	05/29/18 15:57	100

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA04-SB2-02**

**Date Collected: 05/04/18 08:25**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-30**

**Matrix: Solid**

**Percent Solids: 76.0**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	95		50 - 150	05/14/18 14:03	05/29/18 15:57	100
13C5 PFNA	78		50 - 150	05/14/18 14:03	05/29/18 15:57	100
18O2 PFHxS	78		50 - 150	05/14/18 14:03	05/29/18 15:57	100
13C4 PFOS	61		50 - 150	05/14/18 14:03	05/29/18 15:57	100

**Client Sample ID: KLA04-SB3-01**

**Date Collected: 05/04/18 08:05**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-31**

**Matrix: Solid**

**Percent Solids: 78.4**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac	
Perfluoroheptanoic acid (PFHpA)	3.8		0.38	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 09:25	1	
Perfluorooctanoic acid (PFOA)	12		0.38	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 09:25	1	
Perfluorononanoic acid (PFNA)	1.1	M	J G02	0.38	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 09:25	1
Perfluorobutanesulfonic acid (PFBS)	19		0.51	0.076	ug/Kg	☼	05/14/18 14:03	05/29/18 09:25	1	
Perfluorohexanesulfonic acid (PFHxS)	51	E	*	0.38	0.079	ug/Kg	☼	05/14/18 14:03	05/29/18 09:25	1
Perfluorooctanesulfonic acid (PFOS)	1600	E	*	1.3	0.31	ug/Kg	☼	05/14/18 14:03	05/29/18 09:25	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
13C3-PFBS	86		50 - 150				05/14/18 14:03	05/29/18 09:25	1	
13C4-PFHpA	88		50 - 150				05/14/18 14:03	05/29/18 09:25	1	
13C4 PFOA	84		50 - 150				05/14/18 14:03	05/29/18 09:25	1	
13C5 PFNA	28	Q	50 - 150				05/14/18 14:03	05/29/18 09:25	1	
18O2 PFHxS	77		50 - 150				05/14/18 14:03	05/29/18 09:25	1	
13C4 PFOS	20	Q	50 - 150				05/14/18 14:03	05/29/18 09:25	1	

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	3.7	J D *	7.7	2.0	ug/Kg	☼	05/14/18 14:03	05/29/18 17:23	20
Perfluorooctanoic acid (PFOA)	12	D *	7.7	2.6	ug/Kg	☼	05/14/18 14:03	05/29/18 17:23	20
Perfluorononanoic acid (PFNA)	5.1	U M *	7.7	2.1	ug/Kg	☼	05/14/18 14:03	05/29/18 17:23	20
Perfluorobutanesulfonic acid (PFBS)	24	D *	10	1.5	ug/Kg	☼	05/14/18 14:03	05/29/18 17:23	20
Perfluorohexanesulfonic acid (PFHxS)	53	D J K01	7.7	1.6	ug/Kg	☼	05/14/18 14:03	05/29/18 17:23	20
Perfluorooctanesulfonic acid (PFOS)	3500	E D *	26	6.1	ug/Kg	☼	05/14/18 14:03	05/29/18 17:23	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	54		50 - 150				05/14/18 14:03	05/29/18 17:23	20
13C4-PFHpA	75		50 - 150				05/14/18 14:03	05/29/18 17:23	20
13C4 PFOA	82		50 - 150				05/14/18 14:03	05/29/18 17:23	20
13C5 PFNA	59		50 - 150				05/14/18 14:03	05/29/18 17:23	20
18O2 PFHxS	69		50 - 150				05/14/18 14:03	05/29/18 17:23	20
13C4 PFOS	47	Q	50 - 150				05/14/18 14:03	05/29/18 17:23	20

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	26	U *	38	10	ug/Kg	☼	05/14/18 14:03	05/29/18 16:12	100
Perfluorooctanoic acid (PFOA)	13	J D *	38	13	ug/Kg	☼	05/14/18 14:03	05/29/18 16:12	100

TestAmerica Sacramento



# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA04-SB3-01**

**Date Collected: 05/04/18 08:05**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-31**

**Matrix: Solid**

**Percent Solids: 78.4**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	26	U *	38	10	ug/Kg	☼	05/14/18 14:03	05/29/18 16:12	100
Perfluorobutanesulfonic acid (PFBS)	16	J D *	51	7.6	ug/Kg	☼	05/14/18 14:03	05/29/18 16:12	100
Perfluorohexanesulfonic acid (PFHxS)	61	D *	38	7.9	ug/Kg	☼	05/14/18 14:03	05/29/18 16:12	100
Perfluorooctanesulfonic acid (PFOS)	4500	E D J K01 , N03	130	31	ug/Kg	☼	05/14/18 14:03	05/29/18 16:12	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	71	M	50 - 150				05/14/18 14:03	05/29/18 16:12	100
13C4-PFHpA	74		50 - 150				05/14/18 14:03	05/29/18 16:12	100
13C4 PFOA	78		50 - 150				05/14/18 14:03	05/29/18 16:12	100
13C5 PFNA	73		50 - 150				05/14/18 14:03	05/29/18 16:12	100
18O2 PFHxS	53		50 - 150				05/14/18 14:03	05/29/18 16:12	100
13C4 PFOS	57		50 - 150				05/14/18 14:03	05/29/18 16:12	100

**Client Sample ID: KLA04-SB3-02**

**Date Collected: 05/04/18 08:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-32**

**Matrix: Solid**

**Percent Solids: 65.2**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	29		0.46	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 09:33	1
Perfluorooctanoic acid (PFOA)	83	E *	0.46	0.15	ug/Kg	☼	05/14/18 14:03	05/29/18 09:33	1
Perfluorononanoic acid (PFNA)	1.2		0.46	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 09:33	1
Perfluorobutanesulfonic acid (PFBS)	80	E *	0.61	0.091	ug/Kg	☼	05/14/18 14:03	05/29/18 09:33	1
Perfluorohexanesulfonic acid (PFHxS)	410	E *	0.46	0.095	ug/Kg	☼	05/14/18 14:03	05/29/18 09:33	1
Perfluorooctanesulfonic acid (PFOS)	1900	E M *	1.5	0.37	ug/Kg	☼	05/14/18 14:03	05/29/18 09:33	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	109		50 - 150				05/14/18 14:03	05/29/18 09:33	1
13C4-PFHpA	77		50 - 150				05/14/18 14:03	05/29/18 09:33	1
13C4 PFOA	87		50 - 150				05/14/18 14:03	05/29/18 09:33	1
13C5 PFNA	51		50 - 150				05/14/18 14:03	05/29/18 09:33	1
18O2 PFHxS	65		50 - 150				05/14/18 14:03	05/29/18 09:33	1
13C4 PFOS	39	Q	50 - 150				05/14/18 14:03	05/29/18 09:33	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	27	D *	9.2	2.4	ug/Kg	☼	05/14/18 14:03	05/29/18 17:31	20
Perfluorooctanoic acid (PFOA)	85	D J K01	9.2	3.1	ug/Kg	☼	05/14/18 14:03	05/29/18 17:31	20
Perfluorononanoic acid (PFNA)	6.1	U M *	9.2	2.5	ug/Kg	☼	05/14/18 14:03	05/29/18 17:31	20
Perfluorobutanesulfonic acid (PFBS)	110	D J K01	12	1.8	ug/Kg	☼	05/14/18 14:03	05/29/18 17:31	20
Perfluorohexanesulfonic acid (PFHxS)	730	E D *	9.2	1.9	ug/Kg	☼	05/14/18 14:03	05/29/18 17:31	20
Perfluorooctanesulfonic acid (PFOS)	3500	E D M *	31	7.4	ug/Kg	☼	05/14/18 14:03	05/29/18 17:31	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	88		50 - 150				05/14/18 14:03	05/29/18 17:31	20

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA04-SB3-02**

**Date Collected: 05/04/18 08:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-32**

**Matrix: Solid**

**Percent Solids: 65.2**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4-PFHpA	84		50 - 150	05/14/18 14:03	05/29/18 17:31	20
13C4 PFOA	87		50 - 150	05/14/18 14:03	05/29/18 17:31	20
13C5 PFNA	78		50 - 150	05/14/18 14:03	05/29/18 17:31	20
18O2 PFHxS	76		50 - 150	05/14/18 14:03	05/29/18 17:31	20
13C4 PFOS	63		50 - 150	05/14/18 14:03	05/29/18 17:31	20

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	33	J D *	46	12	ug/Kg	☼	05/14/18 14:03	05/29/18 16:20	100
Perfluorooctanoic acid (PFOA)	79	D *	46	15	ug/Kg	☼	05/14/18 14:03	05/29/18 16:20	100
Perfluorononanoic acid (PFNA)	31	U M *	46	12	ug/Kg	☼	05/14/18 14:03	05/29/18 16:20	100
Perfluorobutanesulfonic acid (PFBS)	110	D *	61	9.1	ug/Kg	☼	05/14/18 14:03	05/29/18 16:20	100
Perfluorohexanesulfonic acid (PFHxS)	730	D J K01	46	9.5	ug/Kg	☼	05/14/18 14:03	05/29/18 16:20	100
Perfluorooctanesulfonic acid (PFOS)	3800	E D M J K01 , N03	150	37	ug/Kg	☼	05/14/18 14:03	05/29/18 16:20	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	72	M	50 - 150				05/14/18 14:03	05/29/18 16:20	100
13C4-PFHpA	62		50 - 150				05/14/18 14:03	05/29/18 16:20	100
13C4 PFOA	89		50 - 150				05/14/18 14:03	05/29/18 16:20	100
13C5 PFNA	78		50 - 150				05/14/18 14:03	05/29/18 16:20	100
18O2 PFHxS	69		50 - 150				05/14/18 14:03	05/29/18 16:20	100
13C4 PFOS	64		50 - 150				05/14/18 14:03	05/29/18 16:20	100

**Client Sample ID: KLA05-SB1-01**

**Date Collected: 05/05/18 09:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-33**

**Matrix: Solid**

**Percent Solids: 79.9**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.6		0.38	0.098	ug/Kg	☼	05/14/18 14:03	05/29/18 09:41	1
Perfluorooctanoic acid (PFOA)	2.3		0.38	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 09:41	1
Perfluorononanoic acid (PFNA)	0.61	M =	0.38	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 09:41	1
Perfluorobutanesulfonic acid (PFBS)	4.9		0.50	0.074	ug/Kg	☼	05/14/18 14:03	05/29/18 09:41	1
Perfluorohexanesulfonic acid (PFHxS)	74	E *	0.38	0.078	ug/Kg	☼	05/14/18 14:03	05/29/18 09:41	1
Perfluorooctanesulfonic acid (PFOS)	130	E *	1.3	0.30	ug/Kg	☼	05/14/18 14:03	05/29/18 09:41	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	72		50 - 150				05/14/18 14:03	05/29/18 09:41	1
13C4-PFHpA	81		50 - 150				05/14/18 14:03	05/29/18 09:41	1
13C4 PFOA	90		50 - 150				05/14/18 14:03	05/29/18 09:41	1
13C5 PFNA	74		50 - 150				05/14/18 14:03	05/29/18 09:41	1
18O2 PFHxS	68		50 - 150				05/14/18 14:03	05/29/18 09:41	1
13C4 PFOS	68		50 - 150				05/14/18 14:03	05/29/18 09:41	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5.0	U *	7.6	2.0	ug/Kg	☼	05/14/18 14:03	05/29/18 14:38	20

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA05-SB1-01**

**Date Collected: 05/05/18 09:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-33**

**Matrix: Solid**

**Percent Solids: 79.9**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	5.0	U M *	7.6	2.5	ug/Kg	☼	05/14/18 14:03	05/29/18 14:38	20
Perfluorononanoic acid (PFNA)	5.0	U *	7.6	2.0	ug/Kg	☼	05/14/18 14:03	05/29/18 14:38	20
Perfluorobutanesulfonic acid (PFBS)	6.2	J D *	10	1.5	ug/Kg	☼	05/14/18 14:03	05/29/18 14:38	20
Perfluorohexanesulfonic acid (PFHxS)	78	D J K01	7.6	1.6	ug/Kg	☼	05/14/18 14:03	05/29/18 14:38	20
Perfluorooctanesulfonic acid (PFOS)	170	D J K01	25	6.0	ug/Kg	☼	05/14/18 14:03	05/29/18 14:38	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	54		50 - 150				05/14/18 14:03	05/29/18 14:38	20
13C4-PFHpA	83		50 - 150				05/14/18 14:03	05/29/18 14:38	20
13C4 PFOA	97		50 - 150				05/14/18 14:03	05/29/18 14:38	20
13C5 PFNA	90		50 - 150				05/14/18 14:03	05/29/18 14:38	20
18O2 PFHxS	75		50 - 150				05/14/18 14:03	05/29/18 14:38	20
13C4 PFOS	69		50 - 150				05/14/18 14:03	05/29/18 14:38	20

**Client Sample ID: KLA05-SB1-02**

**Date Collected: 05/05/18 09:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-34**

**Matrix: Solid**

**Percent Solids: 78.5**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.25	U	0.38	0.098	ug/Kg	☼	05/14/18 14:03	05/29/18 14:15	1
Perfluorooctanoic acid (PFOA)	0.23	J	0.38	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 14:15	1
Perfluorononanoic acid (PFNA)	0.25	U	0.38	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 14:15	1
Perfluorobutanesulfonic acid (PFBS)	0.077	J	0.50	0.074	ug/Kg	☼	05/14/18 14:03	05/29/18 14:15	1
Perfluorohexanesulfonic acid (PFHxS)	2.6		0.38	0.078	ug/Kg	☼	05/14/18 14:03	05/29/18 14:15	1
Perfluorooctanesulfonic acid (PFOS)	6.5		1.3	0.30	ug/Kg	☼	05/14/18 14:03	05/29/18 14:15	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	68		50 - 150				05/14/18 14:03	05/29/18 14:15	1
13C4-PFHpA	81		50 - 150				05/14/18 14:03	05/29/18 14:15	1
13C4 PFOA	88		50 - 150				05/14/18 14:03	05/29/18 14:15	1
13C5 PFNA	88		50 - 150				05/14/18 14:03	05/29/18 14:15	1
18O2 PFHxS	70		50 - 150				05/14/18 14:03	05/29/18 14:15	1
13C4 PFOS	72		50 - 150				05/14/18 14:03	05/29/18 14:15	1

**Client Sample ID: KLA05-SB2-01**

**Date Collected: 05/05/18 09:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-35**

**Matrix: Solid**

**Percent Solids: 85.2**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.45		0.36	0.092	ug/Kg	☼	05/14/18 14:03	05/29/18 09:56	1
Perfluorooctanoic acid (PFOA)	1.6		0.36	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 09:56	1
Perfluorononanoic acid (PFNA)	0.36		0.36	0.096	ug/Kg	☼	05/14/18 14:03	05/29/18 09:56	1
Perfluorobutanesulfonic acid (PFBS)	0.32	J	0.47	0.070	ug/Kg	☼	05/14/18 14:03	05/29/18 09:56	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA05-SB2-01**

**Lab Sample ID: 320-39023-35**

**Date Collected: 05/05/18 09:30**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 85.2**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	20		0.36	0.073	ug/Kg	☼	05/14/18 14:03	05/29/18 09:56	1
Perfluorooctanesulfonic acid (PFOS)	37	E *	1.2	0.28	ug/Kg	☼	05/14/18 14:03	05/29/18 09:56	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	69		50 - 150				05/14/18 14:03	05/29/18 09:56	1
13C4-PFHpA	85		50 - 150				05/14/18 14:03	05/29/18 09:56	1
13C4 PFOA	92		50 - 150				05/14/18 14:03	05/29/18 09:56	1
13C5 PFNA	89		50 - 150				05/14/18 14:03	05/29/18 09:56	1
18O2 PFHxS	71		50 - 150				05/14/18 14:03	05/29/18 09:56	1
13C4 PFOS	73		50 - 150				05/14/18 14:03	05/29/18 09:56	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	2.4	U *	3.6	0.92	ug/Kg	☼	05/14/18 14:03	05/29/18 14:46	10
Perfluorooctanoic acid (PFOA)	1.8	J D *	3.6	1.2	ug/Kg	☼	05/14/18 14:03	05/29/18 14:46	10
Perfluorononanoic acid (PFNA)	2.4	U M *	3.6	0.96	ug/Kg	☼	05/14/18 14:03	05/29/18 14:46	10
Perfluorobutanesulfonic acid (PFBS)	2.1	U *	4.7	0.70	ug/Kg	☼	05/14/18 14:03	05/29/18 14:46	10
Perfluorohexanesulfonic acid (PFHxS)	20	D *	3.6	0.73	ug/Kg	☼	05/14/18 14:03	05/29/18 14:46	10
Perfluorooctanesulfonic acid (PFOS)	40	D J K01	12	2.8	ug/Kg	☼	05/14/18 14:03	05/29/18 14:46	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	59		50 - 150				05/14/18 14:03	05/29/18 14:46	10
13C4-PFHpA	82		50 - 150				05/14/18 14:03	05/29/18 14:46	10
13C4 PFOA	86		50 - 150				05/14/18 14:03	05/29/18 14:46	10
13C5 PFNA	89		50 - 150				05/14/18 14:03	05/29/18 14:46	10
18O2 PFHxS	70		50 - 150				05/14/18 14:03	05/29/18 14:46	10
13C4 PFOS	69		50 - 150				05/14/18 14:03	05/29/18 14:46	10

**Client Sample ID: KLA05-SB2-02**

**Lab Sample ID: 320-39023-36**

**Date Collected: 05/05/18 09:40**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 75.4**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.38	J	0.40	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 10:04	1
Perfluorooctanoic acid (PFOA)	1.2		0.40	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 10:04	1
Perfluorononanoic acid (PFNA)	0.34	J M J	0.40	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 10:04	1
Perfluorobutanesulfonic acid (PFBS)	0.29	J	0.53	0.078	ug/Kg	☼	05/14/18 14:03	05/29/18 10:04	1
Perfluorohexanesulfonic acid (PFHxS)	8.9		0.40	0.082	ug/Kg	☼	05/14/18 14:03	05/29/18 10:04	1
Perfluorooctanesulfonic acid (PFOS)	40	E *	1.3	0.32	ug/Kg	☼	05/14/18 14:03	05/29/18 10:04	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	70		50 - 150				05/14/18 14:03	05/29/18 10:04	1
13C4-PFHpA	74		50 - 150				05/14/18 14:03	05/29/18 10:04	1
13C4 PFOA	85		50 - 150				05/14/18 14:03	05/29/18 10:04	1
13C5 PFNA	87		50 - 150				05/14/18 14:03	05/29/18 10:04	1
18O2 PFHxS	74		50 - 150				05/14/18 14:03	05/29/18 10:04	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA05-SB2-02**

**Date Collected: 05/05/18 09:40**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-36**

**Matrix: Solid**

**Percent Solids: 75.4**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<sup>13</sup> C4 PFOS	72		50 - 150	05/14/18 14:03	05/29/18 10:04	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	2.7	U *	4.0	1.0	ug/Kg	☼	05/14/18 14:03	05/29/18 14:54	10
Perfluorooctanoic acid (PFOA)	1.3	J D *	4.0	1.3	ug/Kg	☼	05/14/18 14:03	05/29/18 14:54	10
Perfluorononanoic acid (PFNA)	2.7	U *	4.0	1.1	ug/Kg	☼	05/14/18 14:03	05/29/18 14:54	10
Perfluorobutanesulfonic acid (PFBS)	2.4	U *	5.3	0.78	ug/Kg	☼	05/14/18 14:03	05/29/18 14:54	10
Perfluorohexanesulfonic acid (PFHxS)	9.7	D *	4.0	0.82	ug/Kg	☼	05/14/18 14:03	05/29/18 14:54	10
Perfluorooctanesulfonic acid (PFOS)	42	D M J K01	13	3.2	ug/Kg	☼	05/14/18 14:03	05/29/18 14:54	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<sup>13</sup> C3-PFBS	72		50 - 150	05/14/18 14:03	05/29/18 14:54	10
<sup>13</sup> C4-PFHpA	77		50 - 150	05/14/18 14:03	05/29/18 14:54	10
<sup>13</sup> C4 PFOA	92		50 - 150	05/14/18 14:03	05/29/18 14:54	10
<sup>13</sup> C5 PFNA	85		50 - 150	05/14/18 14:03	05/29/18 14:54	10
<sup>18</sup> O2 PFHxS	72		50 - 150	05/14/18 14:03	05/29/18 14:54	10
<sup>13</sup> C4 PFOS	70		50 - 150	05/14/18 14:03	05/29/18 14:54	10

**Client Sample ID: KLA05-SB3-01**

**Date Collected: 05/05/18 10:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-37**

**Matrix: Solid**

**Percent Solids: 83.8**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	14		0.36	0.092	ug/Kg	☼	05/14/18 14:03	05/29/18 10:20	1
Perfluorooctanoic acid (PFOA)	57	E *	0.36	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 10:20	1
Perfluorononanoic acid (PFNA)	2.6	M J G02	0.36	0.096	ug/Kg	☼	05/14/18 14:03	05/29/18 10:20	1
Perfluorobutanesulfonic acid (PFBS)	6.7		0.47	0.070	ug/Kg	☼	05/14/18 14:03	05/29/18 10:20	1
Perfluorohexanesulfonic acid (PFHxS)	430	E *	0.36	0.073	ug/Kg	☼	05/14/18 14:03	05/29/18 10:20	1
Perfluorooctanesulfonic acid (PFOS)	4600	E *	1.2	0.28	ug/Kg	☼	05/14/18 14:03	05/29/18 10:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<sup>13</sup> C3-PFBS	122		50 - 150	05/14/18 14:03	05/29/18 10:20	1
<sup>13</sup> C4-PFHpA	66		50 - 150	05/14/18 14:03	05/29/18 10:20	1
<sup>13</sup> C4 PFOA	87		50 - 150	05/14/18 14:03	05/29/18 10:20	1
<sup>13</sup> C5 PFNA	19	Q	50 - 150	05/14/18 14:03	05/29/18 10:20	1
<sup>18</sup> O2 PFHxS	46	Q	50 - 150	05/14/18 14:03	05/29/18 10:20	1
<sup>13</sup> C4 PFOS	13	Q	50 - 150	05/14/18 14:03	05/29/18 10:20	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	13	J D *	36	9.2	ug/Kg	☼	05/14/18 14:03	05/29/18 16:28	100
Perfluorooctanoic acid (PFOA)	62	D J K01	36	12	ug/Kg	☼	05/14/18 14:03	05/29/18 16:28	100
Perfluorononanoic acid (PFNA)	24	U *	36	9.6	ug/Kg	☼	05/14/18 14:03	05/29/18 16:28	100
Perfluorobutanesulfonic acid (PFBS)	7.3	J D *	47	7.0	ug/Kg	☼	05/14/18 14:03	05/29/18 16:28	100

TestAmerica Sacramento



# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA05-SB3-01**

**Date Collected: 05/05/18 10:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-37**

**Matrix: Solid**

**Percent Solids: 83.8**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	650	D J K01	36	7.3	ug/Kg	☼	05/14/18 14:03	05/29/18 16:28	100
Perfluorooctanesulfonic acid (PFOS)	14000	E D J K01 , N03	120	28	ug/Kg	☼	05/14/18 14:03	05/29/18 16:28	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	60	M	50 - 150				05/14/18 14:03	05/29/18 16:28	100
13C4-PFHpA	80		50 - 150				05/14/18 14:03	05/29/18 16:28	100
13C4 PFOA	82		50 - 150				05/14/18 14:03	05/29/18 16:28	100
13C5 PFNA	68		50 - 150				05/14/18 14:03	05/29/18 16:28	100
18O2 PFHxS	75		50 - 150				05/14/18 14:03	05/29/18 16:28	100
13C4 PFOS	53		50 - 150				05/14/18 14:03	05/29/18 16:28	100

**Client Sample ID: KLA05-SB3-02**

**Date Collected: 05/05/18 10:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-38**

**Matrix: Solid**

**Percent Solids: 80.4**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.5		0.37	0.097	ug/Kg	☼	05/14/18 14:03	05/29/18 10:28	1
Perfluorooctanoic acid (PFOA)	3.8		0.37	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 10:28	1
Perfluorononanoic acid (PFNA)	0.25	J M J	0.37	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 10:28	1
Perfluorobutanesulfonic acid (PFBS)	0.58		0.50	0.074	ug/Kg	☼	05/14/18 14:03	05/29/18 10:28	1
Perfluorohexanesulfonic acid (PFHxS)	15		0.37	0.077	ug/Kg	☼	05/14/18 14:03	05/29/18 10:28	1
Perfluorooctanesulfonic acid (PFOS)	560	E *	1.2	0.30	ug/Kg	☼	05/14/18 14:03	05/29/18 10:28	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	73		50 - 150				05/14/18 14:03	05/29/18 10:28	1
13C4-PFHpA	81		50 - 150				05/14/18 14:03	05/29/18 10:28	1
13C4 PFOA	87		50 - 150				05/14/18 14:03	05/29/18 10:28	1
13C5 PFNA	50		50 - 150				05/14/18 14:03	05/29/18 10:28	1
18O2 PFHxS	73		50 - 150				05/14/18 14:03	05/29/18 10:28	1
13C4 PFOS	40	Q	50 - 150				05/14/18 14:03	05/29/18 10:28	1

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	25	U *	37	9.7	ug/Kg	☼	05/14/18 14:03	05/29/18 16:44	100
Perfluorooctanoic acid (PFOA)	25	U *	37	12	ug/Kg	☼	05/14/18 14:03	05/29/18 16:44	100
Perfluorononanoic acid (PFNA)	25	U *	37	10	ug/Kg	☼	05/14/18 14:03	05/29/18 16:44	100
Perfluorobutanesulfonic acid (PFBS)	22	U *	50	7.4	ug/Kg	☼	05/14/18 14:03	05/29/18 16:44	100
Perfluorohexanesulfonic acid (PFHxS)	13	J D *	37	7.7	ug/Kg	☼	05/14/18 14:03	05/29/18 16:44	100
Perfluorooctanesulfonic acid (PFOS)	980	D J K01	120	30	ug/Kg	☼	05/14/18 14:03	05/29/18 16:44	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	78	M	50 - 150				05/14/18 14:03	05/29/18 16:44	100
13C4-PFHpA	81		50 - 150				05/14/18 14:03	05/29/18 16:44	100
13C4 PFOA	99		50 - 150				05/14/18 14:03	05/29/18 16:44	100
13C5 PFNA	98		50 - 150				05/14/18 14:03	05/29/18 16:44	100
18O2 PFHxS	79		50 - 150				05/14/18 14:03	05/29/18 16:44	100

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA05-SB3-02**

**Date Collected: 05/05/18 10:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-38**

**Matrix: Solid**

**Percent Solids: 80.4**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<sup>13</sup> C4 PFOS	70		50 - 150	05/14/18 14:03	05/29/18 16:44	100

**Client Sample ID: KLA06-SB1-01**

**Date Collected: 05/01/18 14:15**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-39**

**Matrix: Solid**

**Percent Solids: 73.2**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.71		0.41	0.11	ug/Kg	☼	05/14/18 13:10	06/06/18 23:18	1
Perfluorooctanoic acid (PFOA)	1.3		0.41	0.14	ug/Kg	☼	05/14/18 13:10	06/06/18 23:18	1
Perfluorononanoic acid (PFNA)	2.4		0.41	0.11	ug/Kg	☼	05/14/18 13:10	06/06/18 23:18	1
Perfluorobutanesulfonic acid (PFBS)	0.27	J	0.54	0.080	ug/Kg	☼	05/14/18 13:10	06/06/18 23:18	1
Perfluorohexanesulfonic acid (PFHxS)	11		0.41	0.084	ug/Kg	☼	05/14/18 13:10	06/06/18 23:18	1
Perfluorooctanesulfonic acid (PFOS)	190	M E *	1.4	0.32	ug/Kg	☼	05/14/18 13:10	06/06/18 23:18	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	72		50 - 150				05/14/18 13:10	06/06/18 23:18	1
13C4-PFHpA	77		50 - 150				05/14/18 13:10	06/06/18 23:18	1
13C4 PFOA	79		50 - 150				05/14/18 13:10	06/06/18 23:18	1
13C5 PFNA	62		50 - 150				05/14/18 13:10	06/06/18 23:18	1
18O2 PFHxS	73		50 - 150				05/14/18 13:10	06/06/18 23:18	1
13C4 PFOS	62		50 - 150				05/14/18 13:10	06/06/18 23:18	1

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5.4	U *	8.1	2.1	ug/Kg	☼	05/14/18 13:10	05/29/18 11:30	20
Perfluorooctanoic acid (PFOA)	5.4	U M *	8.1	2.7	ug/Kg	☼	05/14/18 13:10	05/29/18 11:30	20
Perfluorononanoic acid (PFNA)	2.5	J D *	8.1	2.2	ug/Kg	☼	05/14/18 13:10	05/29/18 11:30	20
Perfluorobutanesulfonic acid (PFBS)	4.9	U *	11	1.6	ug/Kg	☼	05/14/18 13:10	05/29/18 11:30	20
Perfluorohexanesulfonic acid (PFHxS)	11	D *	8.1	1.7	ug/Kg	☼	05/14/18 13:10	05/29/18 11:30	20
Perfluorooctanesulfonic acid (PFOS)	250	D J K01	27	6.5	ug/Kg	☼	05/14/18 13:10	05/29/18 11:30	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	67		50 - 150				05/14/18 13:10	05/29/18 11:30	20
13C4-PFHpA	76		50 - 150				05/14/18 13:10	05/29/18 11:30	20
13C4 PFOA	82		50 - 150				05/14/18 13:10	05/29/18 11:30	20
13C5 PFNA	79		50 - 150				05/14/18 13:10	05/29/18 11:30	20
18O2 PFHxS	71		50 - 150				05/14/18 13:10	05/29/18 11:30	20
13C4 PFOS	68		50 - 150				05/14/18 13:10	05/29/18 11:30	20

**Client Sample ID: KLA06-SB1-02**

**Date Collected: 05/01/18 14:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-40**

**Matrix: Solid**

**Percent Solids: 79.6**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.25	J	0.37	0.097	ug/Kg	☼	05/14/18 13:10	06/06/18 23:26	1
Perfluorooctanoic acid (PFOA)	1.1		0.37	0.12	ug/Kg	☼	05/14/18 13:10	06/06/18 23:26	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA06-SB1-02**

**Date Collected: 05/01/18 14:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-40**

**Matrix: Solid**

**Percent Solids: 79.6**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	1.4		0.37	0.10	ug/Kg	☼	05/14/18 13:10	06/06/18 23:26	1
Perfluorobutanesulfonic acid (PFBS)	0.19	J	0.50	0.073	ug/Kg	☼	05/14/18 13:10	06/06/18 23:26	1
Perfluorohexanesulfonic acid (PFHxS)	6.8		0.37	0.077	ug/Kg	☼	05/14/18 13:10	06/06/18 23:26	1
Perfluorooctanesulfonic acid (PFOS)	100	M E *	1.2	0.30	ug/Kg	☼	05/14/18 13:10	06/06/18 23:26	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	68		50 - 150				05/14/18 13:10	06/06/18 23:26	1
13C4-PFHpa	81		50 - 150				05/14/18 13:10	06/06/18 23:26	1
13C4 PFOA	76		50 - 150				05/14/18 13:10	06/06/18 23:26	1
13C5 PFNA	70		50 - 150				05/14/18 13:10	06/06/18 23:26	1
18O2 PFHxS	72		50 - 150				05/14/18 13:10	06/06/18 23:26	1
13C4 PFOS	68		50 - 150				05/14/18 13:10	06/06/18 23:26	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5.0	U M *	7.4	1.9	ug/Kg	☼	05/14/18 13:10	05/29/18 11:38	20
Perfluorooctanoic acid (PFOA)	5.0	U *	7.4	2.5	ug/Kg	☼	05/14/18 13:10	05/29/18 11:38	20
Perfluorononanoic acid (PFNA)	5.0	U M *	7.4	2.0	ug/Kg	☼	05/14/18 13:10	05/29/18 11:38	20
Perfluorobutanesulfonic acid (PFBS)	4.5	U M *	9.9	1.5	ug/Kg	☼	05/14/18 13:10	05/29/18 11:38	20
Perfluorohexanesulfonic acid (PFHxS)	6.6	J D *	7.4	1.5	ug/Kg	☼	05/14/18 13:10	05/29/18 11:38	20
Perfluorooctanesulfonic acid (PFOS)	120	D J K01	25	6.0	ug/Kg	☼	05/14/18 13:10	05/29/18 11:38	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	69		50 - 150				05/14/18 13:10	05/29/18 11:38	20
13C4-PFHpa	76		50 - 150				05/14/18 13:10	05/29/18 11:38	20
13C4 PFOA	81		50 - 150				05/14/18 13:10	05/29/18 11:38	20
13C5 PFNA	78		50 - 150				05/14/18 13:10	05/29/18 11:38	20
18O2 PFHxS	69		50 - 150				05/14/18 13:10	05/29/18 11:38	20
13C4 PFOS	68		50 - 150				05/14/18 13:10	05/29/18 11:38	20

**Client Sample ID: KLA06-SB2-01**

**Date Collected: 05/01/18 13:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-41**

**Matrix: Solid**

**Percent Solids: 63.5**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.2	J1 J H01	0.48	0.12	ug/Kg	☼	05/14/18 13:10	06/06/18 23:34	1
Perfluorooctanoic acid (PFOA)	6.7	J1 J H01	0.48	0.16	ug/Kg	☼	05/14/18 13:10	06/06/18 23:34	1
Perfluorononanoic acid (PFNA)	1.6		0.48	0.13	ug/Kg	☼	05/14/18 13:10	06/06/18 23:34	1
Perfluorobutanesulfonic acid (PFBS)	0.99		0.64	0.094	ug/Kg	☼	05/14/18 13:10	06/06/18 23:34	1
Perfluorohexanesulfonic acid (PFHxS)	42	E J1 *	0.48	0.099	ug/Kg	☼	05/14/18 13:10	06/06/18 23:34	1
Perfluorooctanesulfonic acid (PFOS)	580	E J1 *	1.6	0.38	ug/Kg	☼	05/14/18 13:10	06/06/18 23:34	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	82		50 - 150				05/14/18 13:10	06/06/18 23:34	1
13C4-PFHpa	82		50 - 150				05/14/18 13:10	06/06/18 23:34	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA06-SB2-01**

**Date Collected: 05/01/18 13:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-41**

**Matrix: Solid**

**Percent Solids: 63.5**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	84		50 - 150	05/14/18 13:10	06/06/18 23:34	1
13C5 PFNA	54		50 - 150	05/14/18 13:10	06/06/18 23:34	1
18O2 PFHxS	75		50 - 150	05/14/18 13:10	06/06/18 23:34	1
13C4 PFOS	54		50 - 150	05/14/18 13:10	06/06/18 23:34	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.2	J D J1 *	4.8	1.2	ug/Kg	☼	05/14/18 13:10	05/29/18 12:49	10
Perfluorooctanoic acid (PFOA)	6.7	D J1 *	4.8	1.6	ug/Kg	☼	05/14/18 13:10	05/29/18 12:49	10
Perfluorononanoic acid (PFNA)	1.6	J D *	4.8	1.3	ug/Kg	☼	05/14/18 13:10	05/29/18 12:49	10
Perfluorobutanesulfonic acid (PFBS)	1.0	J D J1 *	6.4	0.94	ug/Kg	☼	05/14/18 13:10	05/29/18 12:49	10
Perfluorohexanesulfonic acid (PFHxS)	44	D J1 J K01	4.8	0.99	ug/Kg	☼	05/14/18 13:10	05/29/18 12:49	10
Perfluorooctanesulfonic acid (PFOS)	860	E D M J1 *	16	3.8	ug/Kg	☼	05/14/18 13:10	05/29/18 12:49	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	67		50 - 150				05/14/18 13:10	05/29/18 12:49	10
13C4-PFHpA	80		50 - 150				05/14/18 13:10	05/29/18 12:49	10
13C4 PFOA	85		50 - 150				05/14/18 13:10	05/29/18 12:49	10
13C5 PFNA	77		50 - 150				05/14/18 13:10	05/29/18 12:49	10
18O2 PFHxS	74		50 - 150				05/14/18 13:10	05/29/18 12:49	10
13C4 PFOS	64		50 - 150				05/14/18 13:10	05/29/18 12:49	10

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	32	U *	48	12	ug/Kg	☼	05/14/18 13:10	05/29/18 12:02	100
Perfluorooctanoic acid (PFOA)	32	U *	48	16	ug/Kg	☼	05/14/18 13:10	05/29/18 12:02	100
Perfluorononanoic acid (PFNA)	32	U *	48	13	ug/Kg	☼	05/14/18 13:10	05/29/18 12:02	100
Perfluorobutanesulfonic acid (PFBS)	29	U *	64	9.4	ug/Kg	☼	05/14/18 13:10	05/29/18 12:02	100
Perfluorohexanesulfonic acid (PFHxS)	39	J D J1 *	48	9.9	ug/Kg	☼	05/14/18 13:10	05/29/18 12:02	100
Perfluorooctanesulfonic acid (PFOS)	960	D M J1 J K01	160	38	ug/Kg	☼	05/14/18 13:10	05/29/18 12:02	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	68	M	50 - 150				05/14/18 13:10	05/29/18 12:02	100
13C4-PFHpA	66		50 - 150				05/14/18 13:10	05/29/18 12:02	100
13C4 PFOA	81		50 - 150				05/14/18 13:10	05/29/18 12:02	100
13C5 PFNA	74		50 - 150				05/14/18 13:10	05/29/18 12:02	100
18O2 PFHxS	71		50 - 150				05/14/18 13:10	05/29/18 12:02	100
13C4 PFOS	60		50 - 150				05/14/18 13:10	05/29/18 12:02	100

**Client Sample ID: KLA06-SB2-02**

**Date Collected: 05/01/18 13:50**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-42**

**Matrix: Solid**

**Percent Solids: 70.3**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.6		0.43	0.11	ug/Kg	☼	05/14/18 13:10	06/07/18 00:13	1
Perfluorooctanoic acid (PFOA)	6.4		0.43	0.14	ug/Kg	☼	05/14/18 13:10	06/07/18 00:13	1
Perfluorononanoic acid (PFNA)	1.7	J G02	0.43	0.12	ug/Kg	☼	05/14/18 13:10	06/07/18 00:13	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA06-SB2-02**

**Lab Sample ID: 320-39023-42**

**Date Collected: 05/01/18 13:50**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 70.3**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	2.1		0.57	0.084	ug/Kg	☼	05/14/18 13:10	06/07/18 00:13	1
Perfluorohexanesulfonic acid (PFHxS)	40	E *	0.43	0.089	ug/Kg	☼	05/14/18 13:10	06/07/18 00:13	1
Perfluorooctanesulfonic acid (PFOS)	920	E *	1.4	0.34	ug/Kg	☼	05/14/18 13:10	06/07/18 00:13	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	81		50 - 150				05/14/18 13:10	06/07/18 00:13	1
13C4-PFHpA	83		50 - 150				05/14/18 13:10	06/07/18 00:13	1
13C4 PFOA	83		50 - 150				05/14/18 13:10	06/07/18 00:13	1
13C5 PFNA	44	Q	50 - 150				05/14/18 13:10	06/07/18 00:13	1
18O2 PFHxS	75		50 - 150				05/14/18 13:10	06/07/18 00:13	1
13C4 PFOS	40	Q	50 - 150				05/14/18 13:10	06/07/18 00:13	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.8	J D *	4.3	1.1	ug/Kg	☼	05/14/18 13:10	05/29/18 13:28	10
Perfluorooctanoic acid (PFOA)	6.2	D *	4.3	1.4	ug/Kg	☼	05/14/18 13:10	05/29/18 13:28	10
Perfluorononanoic acid (PFNA)	1.8	J D *	4.3	1.2	ug/Kg	☼	05/14/18 13:10	05/29/18 13:28	10
Perfluorobutanesulfonic acid (PFBS)	2.1	J D *	5.7	0.84	ug/Kg	☼	05/14/18 13:10	05/29/18 13:28	10
Perfluorohexanesulfonic acid (PFHxS)	45	D J K01	4.3	0.89	ug/Kg	☼	05/14/18 13:10	05/29/18 13:28	10
Perfluorooctanesulfonic acid (PFOS)	1300	E D *	14	3.4	ug/Kg	☼	05/14/18 13:10	05/29/18 13:28	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	73		50 - 150				05/14/18 13:10	05/29/18 13:28	10
13C4-PFHpA	78		50 - 150				05/14/18 13:10	05/29/18 13:28	10
13C4 PFOA	90		50 - 150				05/14/18 13:10	05/29/18 13:28	10
13C5 PFNA	75		50 - 150				05/14/18 13:10	05/29/18 13:28	10
18O2 PFHxS	72		50 - 150				05/14/18 13:10	05/29/18 13:28	10
13C4 PFOS	61		50 - 150				05/14/18 13:10	05/29/18 13:28	10

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	29	U *	43	11	ug/Kg	☼	05/14/18 13:10	05/29/18 12:25	100
Perfluorooctanoic acid (PFOA)	29	U M *	43	14	ug/Kg	☼	05/14/18 13:10	05/29/18 12:25	100
Perfluorononanoic acid (PFNA)	29	U *	43	12	ug/Kg	☼	05/14/18 13:10	05/29/18 12:25	100
Perfluorobutanesulfonic acid (PFBS)	26	U *	57	8.4	ug/Kg	☼	05/14/18 13:10	05/29/18 12:25	100
Perfluorohexanesulfonic acid (PFHxS)	42	J D *	43	8.9	ug/Kg	☼	05/14/18 13:10	05/29/18 12:25	100
Perfluorooctanesulfonic acid (PFOS)	1600	D J K01	140	34	ug/Kg	☼	05/14/18 13:10	05/29/18 12:25	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	61	M	50 - 150				05/14/18 13:10	05/29/18 12:25	100
13C4-PFHpA	72		50 - 150				05/14/18 13:10	05/29/18 12:25	100
13C4 PFOA	78		50 - 150				05/14/18 13:10	05/29/18 12:25	100
13C5 PFNA	78		50 - 150				05/14/18 13:10	05/29/18 12:25	100
18O2 PFHxS	64		50 - 150				05/14/18 13:10	05/29/18 12:25	100
13C4 PFOS	59		50 - 150				05/14/18 13:10	05/29/18 12:25	100

TestAmerica Sacramento



# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA07-SD1-01**

**Lab Sample ID: 320-39023-43**

**Date Collected: 05/06/18 11:30**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 92.9**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.22	U	0.32	0.084	ug/Kg	☼	05/14/18 13:10	06/07/18 00:52	1
Perfluorooctanoic acid (PFOA)	0.22	U	0.32	0.11	ug/Kg	☼	05/14/18 13:10	06/07/18 00:52	1
Perfluorononanoic acid (PFNA)	0.22	U	0.32	0.088	ug/Kg	☼	05/14/18 13:10	06/07/18 00:52	1
Perfluorobutanesulfonic acid (PFBS)	0.19	U	0.43	0.064	ug/Kg	☼	05/14/18 13:10	06/07/18 00:52	1
Perfluorohexanesulfonic acid (PFHxS)	0.22	U	0.32	0.067	ug/Kg	☼	05/14/18 13:10	06/07/18 00:52	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1.5</b>	<b>U F04</b>	1.1	0.26	ug/Kg	☼	05/14/18 13:10	06/07/18 00:52	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	68		50 - 150	05/14/18 13:10	06/07/18 00:52	1
13C4-PFHpA	80		50 - 150	05/14/18 13:10	06/07/18 00:52	1
13C4 PFOA	84		50 - 150	05/14/18 13:10	06/07/18 00:52	1
13C5 PFNA	82		50 - 150	05/14/18 13:10	06/07/18 00:52	1
18O2 PFHxS	73		50 - 150	05/14/18 13:10	06/07/18 00:52	1
13C4 PFOS	75		50 - 150	05/14/18 13:10	06/07/18 00:52	1

**Client Sample ID: ER-01**

**Lab Sample ID: 320-39023-44**

**Date Collected: 05/01/18 15:30**

**Matrix: Water**

**Date Received: 05/09/18 09:20**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.88	J	1.7	0.51	ng/L		05/15/18 12:48	05/21/18 14:03	1
Perfluorooctanoic acid (PFOA)	1.7		1.7	0.46	ng/L		05/15/18 12:48	05/21/18 14:03	1
Perfluorononanoic acid (PFNA)	1.3	U	1.7	0.44	ng/L		05/15/18 12:48	05/21/18 14:03	1
Perfluorobutanesulfonic acid (PFBS)	0.40	J M J	1.7	0.39	ng/L		05/15/18 12:48	05/21/18 14:03	1
Perfluorohexanesulfonic acid (PFHxS)	1.9		1.7	0.32	ng/L		05/15/18 12:48	05/21/18 14:03	1
Perfluorooctanesulfonic acid (PFOS)	8.7		3.4	0.93	ng/L		05/15/18 12:48	05/21/18 14:03	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	88		50 - 150	05/15/18 12:48	05/21/18 14:03	1
13C4-PFHpA	88		50 - 150	05/15/18 12:48	05/21/18 14:03	1
13C4 PFOA	90		50 - 150	05/15/18 12:48	05/21/18 14:03	1
13C5 PFNA	92		50 - 150	05/15/18 12:48	05/21/18 14:03	1
18O2 PFHxS	88		50 - 150	05/15/18 12:48	05/21/18 14:03	1
13C4 PFOS	82		50 - 150	05/15/18 12:48	05/21/18 14:03	1

**Client Sample ID: FB-01**

**Lab Sample ID: 320-39023-45**

**Date Collected: 05/01/18 15:50**

**Matrix: Water**

**Date Received: 05/09/18 09:20**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.2	U	1.7	0.51	ng/L		05/15/18 12:48	05/19/18 06:46	1
Perfluorooctanoic acid (PFOA)	1.2	U	1.7	0.45	ng/L		05/15/18 12:48	05/19/18 06:46	1
Perfluorononanoic acid (PFNA)	1.2	U	1.7	0.43	ng/L		05/15/18 12:48	05/19/18 06:46	1
Perfluorobutanesulfonic acid (PFBS)	0.83	U	1.7	0.38	ng/L		05/15/18 12:48	05/19/18 06:46	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>0.61</b>	<b>J U F06</b>	1.7	0.32	ng/L		05/15/18 12:48	05/19/18 06:46	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: FB-01**

**Date Collected: 05/01/18 15:50**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-45**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	1.7	J	3.3	0.91	ng/L		05/15/18 12:48	05/19/18 06:46	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	91		50 - 150				05/15/18 12:48	05/19/18 06:46	1
13C4-PFHpA	101		50 - 150				05/15/18 12:48	05/19/18 06:46	1
13C4 PFOA	94		50 - 150				05/15/18 12:48	05/19/18 06:46	1
13C5 PFNA	105		50 - 150				05/15/18 12:48	05/19/18 06:46	1
18O2 PFHxS	93		50 - 150				05/15/18 12:48	05/19/18 06:46	1
13C4 PFOS	95		50 - 150				05/15/18 12:48	05/19/18 06:46	1

**Client Sample ID: ER-02**

**Date Collected: 05/02/18 09:40**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-46**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.3	U	1.7	0.53	ng/L		05/16/18 14:51	05/28/18 09:29	1
Perfluorooctanoic acid (PFOA)	0.52	J M J	1.7	0.47	ng/L		05/16/18 14:51	05/28/18 09:29	1
Perfluorononanoic acid (PFNA)	1.3	U	1.7	0.45	ng/L		05/16/18 14:51	05/28/18 09:29	1
Perfluorobutanesulfonic acid (PFBS)	0.87	U	1.7	0.40	ng/L		05/16/18 14:51	05/28/18 09:29	1
Perfluorohexanesulfonic acid (PFHxS)	1.0	J U F06	1.7	0.33	ng/L		05/16/18 14:51	05/28/18 09:29	1
Perfluorooctanesulfonic acid (PFOS)	4.4	M =	3.5	0.96	ng/L		05/16/18 14:51	05/28/18 09:29	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	75		50 - 150				05/16/18 14:51	05/28/18 09:29	1
13C4-PFHpA	71		50 - 150				05/16/18 14:51	05/28/18 09:29	1
13C4 PFOA	80		50 - 150				05/16/18 14:51	05/28/18 09:29	1
13C5 PFNA	84		50 - 150				05/16/18 14:51	05/28/18 09:29	1
18O2 PFHxS	75		50 - 150				05/16/18 14:51	05/28/18 09:29	1
13C4 PFOS	77		50 - 150				05/16/18 14:51	05/28/18 09:29	1

**Client Sample ID: ER-03**

**Date Collected: 05/03/18 10:30**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-47**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.3	U	1.8	0.55	ng/L		05/17/18 14:42	05/25/18 23:59	1
Perfluorooctanoic acid (PFOA)	1.3	U	1.8	0.49	ng/L		05/17/18 14:42	05/25/18 23:59	1
Perfluorononanoic acid (PFNA)	1.3	U	1.8	0.47	ng/L		05/17/18 14:42	05/25/18 23:59	1
Perfluorobutanesulfonic acid (PFBS)	0.90	U	1.8	0.41	ng/L		05/17/18 14:42	05/25/18 23:59	1
Perfluorohexanesulfonic acid (PFHxS)	0.90	U	1.8	0.34	ng/L		05/17/18 14:42	05/25/18 23:59	1
Perfluorooctanesulfonic acid (PFOS)	2.7	U	3.6	0.99	ng/L		05/17/18 14:42	05/25/18 23:59	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	65		50 - 150				05/17/18 14:42	05/25/18 23:59	1
13C4-PFHpA	66		50 - 150				05/17/18 14:42	05/25/18 23:59	1
13C4 PFOA	69		50 - 150				05/17/18 14:42	05/25/18 23:59	1
13C5 PFNA	71		50 - 150				05/17/18 14:42	05/25/18 23:59	1
18O2 PFHxS	63		50 - 150				05/17/18 14:42	05/25/18 23:59	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: ER-03**

**Date Collected: 05/03/18 10:30**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-47**

**Matrix: Water**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<sup>13</sup> C4 PFOS	64		50 - 150	05/17/18 14:42	05/25/18 23:59	1

**Client Sample ID: ER-04**

**Date Collected: 05/04/18 11:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-48**

**Matrix: Water**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.4	U	1.9	0.57	ng/L		05/17/18 14:42	05/26/18 00:15	1
Perfluorooctanoic acid (PFOA)	1.4	U M U	1.9	0.50	ng/L		05/17/18 14:42	05/26/18 00:15	1
Perfluorononanoic acid (PFNA)	1.4	U	1.9	0.48	ng/L		05/17/18 14:42	05/26/18 00:15	1
Perfluorobutanesulfonic acid (PFBS)	0.93	U	1.9	0.43	ng/L		05/17/18 14:42	05/26/18 00:15	1
Perfluorohexanesulfonic acid (PFHxS)	0.46	J U F06	1.9	0.35	ng/L		05/17/18 14:42	05/26/18 00:15	1
Perfluorooctanesulfonic acid (PFOS)	1.3	J	3.7	1.0	ng/L		05/17/18 14:42	05/26/18 00:15	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	70		50 - 150				05/17/18 14:42	05/26/18 00:15	1
13C4-PFHpA	70		50 - 150				05/17/18 14:42	05/26/18 00:15	1
13C4 PFOA	73		50 - 150				05/17/18 14:42	05/26/18 00:15	1
13C5 PFNA	78		50 - 150				05/17/18 14:42	05/26/18 00:15	1
18O2 PFHxS	69		50 - 150				05/17/18 14:42	05/26/18 00:15	1
13C4 PFOS	69		50 - 150				05/17/18 14:42	05/26/18 00:15	1

**Client Sample ID: MW-572-02-PRL05-01D**

**Date Collected: 05/06/18 10:30**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-49**

**Matrix: Water**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	24		1.9	0.58	ng/L		05/18/18 10:26	05/28/18 12:37	1
Perfluorooctanoic acid (PFOA)	57		1.9	0.51	ng/L		05/18/18 10:26	05/28/18 12:37	1
Perfluorononanoic acid (PFNA)	3.9		1.9	0.50	ng/L		05/18/18 10:26	05/28/18 12:37	1
Perfluorobutanesulfonic acid (PFBS)	28		1.9	0.44	ng/L		05/18/18 10:26	05/28/18 12:37	1
Perfluorohexanesulfonic acid (PFHxS)	370	E *	1.9	0.36	ng/L		05/18/18 10:26	05/28/18 12:37	1
Perfluorooctanesulfonic acid (PFOS)	1200	E *	3.8	1.0	ng/L		05/18/18 10:26	05/28/18 12:37	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	59		50 - 150				05/18/18 10:26	05/28/18 12:37	1
13C4-PFHpA	60		50 - 150				05/18/18 10:26	05/28/18 12:37	1
13C4 PFOA	65		50 - 150				05/18/18 10:26	05/28/18 12:37	1
13C5 PFNA	61		50 - 150				05/18/18 10:26	05/28/18 12:37	1
18O2 PFHxS	58		50 - 150				05/18/18 10:26	05/28/18 12:37	1
13C4 PFOS	55		50 - 150				05/18/18 10:26	05/28/18 12:37	1

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	24	D *	19	5.8	ng/L		05/18/18 10:26	05/29/18 20:54	10
Perfluorooctanoic acid (PFOA)	62	D *	19	5.1	ng/L		05/18/18 10:26	05/29/18 20:54	10

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-572-02-PRL05-01D**

**Lab Sample ID: 320-39023-49**

**Date Collected: 05/06/18 10:30**

**Matrix: Water**

**Date Received: 05/08/18 09:00**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	14	U M *	19	5.0	ng/L		05/18/18 10:26	05/29/18 20:54	10
Perfluorobutanesulfonic acid (PFBS)	28	D *	19	4.4	ng/L		05/18/18 10:26	05/29/18 20:54	10
Perfluorohexanesulfonic acid (PFHxS)	390	D J K01	19	3.6	ng/L		05/18/18 10:26	05/29/18 20:54	10
Perfluorooctanesulfonic acid (PFOS)	1200	D J K01	38	10	ng/L		05/18/18 10:26	05/29/18 20:54	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	53		50 - 150				05/18/18 10:26	05/29/18 20:54	10
13C4-PFHpa	56		50 - 150				05/18/18 10:26	05/29/18 20:54	10
13C4 PFOA	63		50 - 150				05/18/18 10:26	05/29/18 20:54	10
13C5 PFNA	60		50 - 150				05/18/18 10:26	05/29/18 20:54	10
18O2 PFHxS	52		50 - 150				05/18/18 10:26	05/29/18 20:54	10
13C4 PFOS	53		50 - 150				05/18/18 10:26	05/29/18 20:54	10

**Client Sample ID: KLA03-SB-2-01D**

**Lab Sample ID: 320-39023-51**

**Date Collected: 05/02/18 12:15**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 78.6**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.26	U	0.38	0.10	ug/Kg	☼	05/14/18 13:10	06/07/18 01:00	1
Perfluorooctanoic acid (PFOA)	0.16	J	0.38	0.13	ug/Kg	☼	05/14/18 13:10	06/07/18 01:00	1
Perfluorononanoic acid (PFNA)	0.26	U	0.38	0.10	ug/Kg	☼	05/14/18 13:10	06/07/18 01:00	1
Perfluorobutanesulfonic acid (PFBS)	0.098	J	0.51	0.076	ug/Kg	☼	05/14/18 13:10	06/07/18 01:00	1
Perfluorohexanesulfonic acid (PFHxS)	0.71		0.38	0.080	ug/Kg	☼	05/14/18 13:10	06/07/18 01:00	1
Perfluorooctanesulfonic acid (PFOS)	2.7		1.3	0.31	ug/Kg	☼	05/14/18 13:10	06/07/18 01:00	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	79		50 - 150				05/14/18 13:10	06/07/18 01:00	1
13C4-PFHpa	90		50 - 150				05/14/18 13:10	06/07/18 01:00	1
13C4 PFOA	89		50 - 150				05/14/18 13:10	06/07/18 01:00	1
13C5 PFNA	93		50 - 150				05/14/18 13:10	06/07/18 01:00	1
18O2 PFHxS	84		50 - 150				05/14/18 13:10	06/07/18 01:00	1
13C4 PFOS	82		50 - 150				05/14/18 13:10	06/07/18 01:00	1

**Client Sample ID: KLA06-SB-2-02D**

**Lab Sample ID: 320-39023-52**

**Date Collected: 05/01/18 13:50**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 67.8**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.0		0.44	0.12	ug/Kg	☼	05/14/18 13:10	06/07/18 00:21	1
Perfluorooctanoic acid (PFOA)	4.1		0.44	0.15	ug/Kg	☼	05/14/18 13:10	06/07/18 00:21	1
Perfluorononanoic acid (PFNA)	1.8	J G02	0.44	0.12	ug/Kg	☼	05/14/18 13:10	06/07/18 00:21	1
Perfluorobutanesulfonic acid (PFBS)	1.4		0.59	0.087	ug/Kg	☼	05/14/18 13:10	06/07/18 00:21	1
Perfluorohexanesulfonic acid (PFHxS)	41	E *	0.44	0.091	ug/Kg	☼	05/14/18 13:10	06/07/18 00:21	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA06-SB-2-02D**

**Lab Sample ID: 320-39023-52**

**Date Collected: 05/01/18 13:50**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 67.8**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	690	E *	1.5	0.35	ug/Kg	☼	05/14/18 13:10	06/07/18 00:21	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	76		50 - 150				05/14/18 13:10	06/07/18 00:21	1
13C4-PFHpA	86		50 - 150				05/14/18 13:10	06/07/18 00:21	1
13C4 PFOA	83		50 - 150				05/14/18 13:10	06/07/18 00:21	1
13C5 PFNA	47	Q	50 - 150				05/14/18 13:10	06/07/18 00:21	1
18O2 PFHxS	76		50 - 150				05/14/18 13:10	06/07/18 00:21	1
13C4 PFOS	44	Q	50 - 150				05/14/18 13:10	06/07/18 00:21	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.4	J D *	4.4	1.2	ug/Kg	☼	05/14/18 13:10	05/29/18 13:36	10
Perfluorooctanoic acid (PFOA)	4.4	D *	4.4	1.5	ug/Kg	☼	05/14/18 13:10	05/29/18 13:36	10
Perfluorononanoic acid (PFNA)	1.8	J D *	4.4	1.2	ug/Kg	☼	05/14/18 13:10	05/29/18 13:36	10
Perfluorobutanesulfonic acid (PFBS)	1.3	J D *	5.9	0.87	ug/Kg	☼	05/14/18 13:10	05/29/18 13:36	10
Perfluorohexanesulfonic acid (PFHxS)	45	D J K01	4.4	0.91	ug/Kg	☼	05/14/18 13:10	05/29/18 13:36	10
Perfluorooctanesulfonic acid (PFOS)	1000	E D *	15	3.5	ug/Kg	☼	05/14/18 13:10	05/29/18 13:36	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	66		50 - 150				05/14/18 13:10	05/29/18 13:36	10
13C4-PFHpA	75		50 - 150				05/14/18 13:10	05/29/18 13:36	10
13C4 PFOA	84		50 - 150				05/14/18 13:10	05/29/18 13:36	10
13C5 PFNA	79		50 - 150				05/14/18 13:10	05/29/18 13:36	10
18O2 PFHxS	71		50 - 150				05/14/18 13:10	05/29/18 13:36	10
13C4 PFOS	62		50 - 150				05/14/18 13:10	05/29/18 13:36	10

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	29	U *	44	12	ug/Kg	☼	05/14/18 13:10	05/29/18 12:33	100
Perfluorooctanoic acid (PFOA)	29	U M *	44	15	ug/Kg	☼	05/14/18 13:10	05/29/18 12:33	100
Perfluorononanoic acid (PFNA)	29	U *	44	12	ug/Kg	☼	05/14/18 13:10	05/29/18 12:33	100
Perfluorobutanesulfonic acid (PFBS)	27	U *	59	8.7	ug/Kg	☼	05/14/18 13:10	05/29/18 12:33	100
Perfluorohexanesulfonic acid (PFHxS)	46	D *	44	9.1	ug/Kg	☼	05/14/18 13:10	05/29/18 12:33	100
Perfluorooctanesulfonic acid (PFOS)	1100	D J K01	150	35	ug/Kg	☼	05/14/18 13:10	05/29/18 12:33	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	51	M	50 - 150				05/14/18 13:10	05/29/18 12:33	100
13C4-PFHpA	64		50 - 150				05/14/18 13:10	05/29/18 12:33	100
13C4 PFOA	84		50 - 150				05/14/18 13:10	05/29/18 12:33	100
13C5 PFNA	74		50 - 150				05/14/18 13:10	05/29/18 12:33	100
18O2 PFHxS	59		50 - 150				05/14/18 13:10	05/29/18 12:33	100
13C4 PFOS	57		50 - 150				05/14/18 13:10	05/29/18 12:33	100

TestAmerica Sacramento



# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA02-SB2-02D**

**Lab Sample ID: 320-39023-53**

**Date Collected: 05/04/18 13:25**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 59.1**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5.6		0.50	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 10:36	1
Perfluorooctanoic acid (PFOA)	15		0.50	0.17	ug/Kg	☼	05/14/18 14:03	05/29/18 10:36	1
Perfluorononanoic acid (PFNA)	0.34	J M J	0.50	0.14	ug/Kg	☼	05/14/18 14:03	05/29/18 10:36	1
Perfluorobutanesulfonic acid (PFBS)	24		0.67	0.099	ug/Kg	☼	05/14/18 14:03	05/29/18 10:36	1
Perfluorohexanesulfonic acid (PFHxS)	95	E *	0.50	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 10:36	1
Perfluorooctanesulfonic acid (PFOS)	380	E *	1.7	0.40	ug/Kg	☼	05/14/18 14:03	05/29/18 10:36	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	78		50 - 150				05/14/18 14:03	05/29/18 10:36	1
13C4-PFHpA	78		50 - 150				05/14/18 14:03	05/29/18 10:36	1
13C4 PFOA	84		50 - 150				05/14/18 14:03	05/29/18 10:36	1
13C5 PFNA	71		50 - 150				05/14/18 14:03	05/29/18 10:36	1
18O2 PFHxS	73		50 - 150				05/14/18 14:03	05/29/18 10:36	1
13C4 PFOS	60		50 - 150				05/14/18 14:03	05/29/18 10:36	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5.5	J D *	10	2.6	ug/Kg	☼	05/14/18 14:03	05/29/18 17:38	20
Perfluorooctanoic acid (PFOA)	14	D *	10	3.3	ug/Kg	☼	05/14/18 14:03	05/29/18 17:38	20
Perfluorononanoic acid (PFNA)	6.7	U M *	10	2.7	ug/Kg	☼	05/14/18 14:03	05/29/18 17:38	20
Perfluorobutanesulfonic acid (PFBS)	23	D *	13	2.0	ug/Kg	☼	05/14/18 14:03	05/29/18 17:38	20
Perfluorohexanesulfonic acid (PFHxS)	110	D J K01	10	2.1	ug/Kg	☼	05/14/18 14:03	05/29/18 17:38	20
Perfluorooctanesulfonic acid (PFOS)	490	D J K01	33	8.0	ug/Kg	☼	05/14/18 14:03	05/29/18 17:38	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	74	M	50 - 150				05/14/18 14:03	05/29/18 17:38	20
13C4-PFHpA	72		50 - 150				05/14/18 14:03	05/29/18 17:38	20
13C4 PFOA	86		50 - 150				05/14/18 14:03	05/29/18 17:38	20
13C5 PFNA	81		50 - 150				05/14/18 14:03	05/29/18 17:38	20
18O2 PFHxS	70		50 - 150				05/14/18 14:03	05/29/18 17:38	20
13C4 PFOS	67		50 - 150				05/14/18 14:03	05/29/18 17:38	20

**Client Sample ID: KLA02-SB1-02D**

**Lab Sample ID: 320-39023-54**

**Date Collected: 05/04/18 13:45**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 75.9**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.11	J	0.39	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 10:43	1
Perfluorooctanoic acid (PFOA)	0.25	J M J	0.39	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 10:43	1
Perfluorononanoic acid (PFNA)	0.26	U M U	0.39	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 10:43	1
Perfluorobutanesulfonic acid (PFBS)	0.21	J	0.52	0.077	ug/Kg	☼	05/14/18 14:03	05/29/18 10:43	1
Perfluorohexanesulfonic acid (PFHxS)	1.7		0.39	0.081	ug/Kg	☼	05/14/18 14:03	05/29/18 10:43	1
Perfluorooctanesulfonic acid (PFOS)	12		1.3	0.31	ug/Kg	☼	05/14/18 14:03	05/29/18 10:43	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA02-SB1-02D**

**Date Collected: 05/04/18 13:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-54**

**Matrix: Solid**

**Percent Solids: 75.9**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	73		50 - 150	05/14/18 14:03	05/29/18 10:43	1
13C4-PFHpA	83		50 - 150	05/14/18 14:03	05/29/18 10:43	1
13C4 PFOA	91		50 - 150	05/14/18 14:03	05/29/18 10:43	1
13C5 PFNA	96		50 - 150	05/14/18 14:03	05/29/18 10:43	1
18O2 PFHxS	81		50 - 150	05/14/18 14:03	05/29/18 10:43	1
13C4 PFOS	80		50 - 150	05/14/18 14:03	05/29/18 10:43	1

**Client Sample ID: KLA05-SB1-01D**

**Date Collected: 05/05/18 09:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-55**

**Matrix: Solid**

**Percent Solids: 82.2**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.8		0.37	0.095	ug/Kg	☼	05/14/18 13:10	06/07/18 00:29	1
Perfluorooctanoic acid (PFOA)	12		0.37	0.12	ug/Kg	☼	05/14/18 13:10	06/07/18 00:29	1
Perfluorononanoic acid (PFNA)	2.8		0.37	0.099	ug/Kg	☼	05/14/18 13:10	06/07/18 00:29	1
Perfluorobutanesulfonic acid (PFBS)	3.1		0.49	0.072	ug/Kg	☼	05/14/18 13:10	06/07/18 00:29	1
Perfluorohexanesulfonic acid (PFHxS)	170	E *	0.37	0.076	ug/Kg	☼	05/14/18 13:10	06/07/18 00:29	1
Perfluorooctanesulfonic acid (PFOS)	390	E *	1.2	0.29	ug/Kg	☼	05/14/18 13:10	06/07/18 00:29	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	77		50 - 150				05/14/18 13:10	06/07/18 00:29	1
13C4-PFHpA	64		50 - 150				05/14/18 13:10	06/07/18 00:29	1
13C4 PFOA	84		50 - 150				05/14/18 13:10	06/07/18 00:29	1
13C5 PFNA	56		50 - 150				05/14/18 13:10	06/07/18 00:29	1
18O2 PFHxS	64		50 - 150				05/14/18 13:10	06/07/18 00:29	1
13C4 PFOS	57		50 - 150				05/14/18 13:10	06/07/18 00:29	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	24	U *	37	9.5	ug/Kg	☼	05/14/18 13:10	05/29/18 12:41	100
Perfluorooctanoic acid (PFOA)	13	J D *	37	12	ug/Kg	☼	05/14/18 13:10	05/29/18 12:41	100
Perfluorononanoic acid (PFNA)	24	U *	37	9.9	ug/Kg	☼	05/14/18 13:10	05/29/18 12:41	100
Perfluorobutanesulfonic acid (PFBS)	22	U *	49	7.2	ug/Kg	☼	05/14/18 13:10	05/29/18 12:41	100
Perfluorohexanesulfonic acid (PFHxS)	300	D J K01	37	7.6	ug/Kg	☼	05/14/18 13:10	05/29/18 12:41	100
Perfluorooctanesulfonic acid (PFOS)	650	D J K01	120	29	ug/Kg	☼	05/14/18 13:10	05/29/18 12:41	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	82	M	50 - 150				05/14/18 13:10	05/29/18 12:41	100
13C4-PFHpA	69		50 - 150				05/14/18 13:10	05/29/18 12:41	100
13C4 PFOA	81		50 - 150				05/14/18 13:10	05/29/18 12:41	100
13C5 PFNA	84		50 - 150				05/14/18 13:10	05/29/18 12:41	100
18O2 PFHxS	61		50 - 150				05/14/18 13:10	05/29/18 12:41	100
13C4 PFOS	62		50 - 150				05/14/18 13:10	05/29/18 12:41	100

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: ER-05**

**Date Collected: 05/06/18 16:00**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-56**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.4	U	1.9	0.58	ng/L		05/18/18 10:26	05/29/18 21:18	1
Perfluorooctanoic acid (PFOA)	0.74	J M J	1.9	0.51	ng/L		05/18/18 10:26	05/29/18 21:18	1
Perfluorononanoic acid (PFNA)	1.4	U	1.9	0.49	ng/L		05/18/18 10:26	05/29/18 21:18	1
Perfluorobutanesulfonic acid (PFBS)	0.52	J	1.9	0.44	ng/L		05/18/18 10:26	05/29/18 21:18	1
Perfluorohexanesulfonic acid (PFHxS)	3.4	U F06	1.9	0.36	ng/L		05/18/18 10:26	05/29/18 21:18	1
Perfluorooctanesulfonic acid (PFOS)	13		3.8	1.0	ng/L		05/18/18 10:26	05/29/18 21:18	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	84		50 - 150				05/18/18 10:26	05/29/18 21:18	1
13C4-PFHpA	93		50 - 150				05/18/18 10:26	05/29/18 21:18	1
13C4 PFOA	98		50 - 150				05/18/18 10:26	05/29/18 21:18	1
13C5 PFNA	104		50 - 150				05/18/18 10:26	05/29/18 21:18	1
18O2 PFHxS	87		50 - 150				05/18/18 10:26	05/29/18 21:18	1
13C4 PFOS	91		50 - 150				05/18/18 10:26	05/29/18 21:18	1

**Client Sample ID: IDW-KINGSLEY-SO-LDOS01**

**Date Collected: 05/07/18 09:45**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-57**

**Matrix: Solid**

## Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0040	U	0.010	0.0016	mg/L			05/29/18 15:26	1
2-Butanone (MEK)	0.040	U	0.10	0.018	mg/L			05/29/18 15:26	1
Carbon tetrachloride	0.0040	U	0.010	0.0019	mg/L			05/29/18 15:26	1
Chlorobenzene	0.0040	U	0.010	0.0017	mg/L			05/29/18 15:26	1
Chloroform	0.0040	U	0.010	0.0016	mg/L			05/29/18 15:26	1
1,2-Dichloroethane	0.0040	U	0.010	0.0013	mg/L			05/29/18 15:26	1
1,1-Dichloroethene	0.0080	U	0.010	0.0023	mg/L			05/29/18 15:26	1
Tetrachloroethene	0.0040	U	0.010	0.0020	mg/L			05/29/18 15:26	1
Trichloroethene	0.0040	U	0.010	0.0016	mg/L			05/29/18 15:26	1
Vinyl chloride	0.0020	U	0.010	0.0010	mg/L			05/29/18 15:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		78 - 120					05/29/18 15:26	1
1,2-Dichloroethane-d4 (Surr)	98		64 - 129					05/29/18 15:26	1
4-Bromofluorobenzene (Surr)	90		78 - 121					05/29/18 15:26	1
Dibromofluoromethane (Surr)	103		79 - 119					05/29/18 15:26	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.010	U	0.050	0.0049	mg/L		05/21/18 08:55	05/25/18 21:36	1
3 & 4 Methylphenol	0.0025	U	0.050	0.0013	mg/L		05/21/18 08:55	05/25/18 21:36	1
1,4-Dichlorobenzene	0.020	U	0.020	0.0016	mg/L		05/21/18 08:55	05/25/18 21:36	1
2,4-Dinitrotoluene	0.022	U	0.050	0.0083	mg/L		05/21/18 08:55	05/25/18 21:36	1
Hexachlorobenzene	0.010	U	0.050	0.0033	mg/L		05/21/18 08:55	05/25/18 21:36	1
Hexachlorobutadiene	0.050	U	0.050	0.017	mg/L		05/21/18 08:55	05/25/18 21:36	1
Hexachloroethane	0.022	U	0.050	0.011	mg/L		05/21/18 08:55	05/25/18 21:36	1
Nitrobenzene	0.010	U	0.050	0.0041	mg/L		05/21/18 08:55	05/25/18 21:36	1
Pentachlorophenol	0.20	U	0.25	0.10	mg/L		05/21/18 08:55	05/25/18 21:36	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: IDW-KINGSLEY-SO-LDOS01**

**Lab Sample ID: 320-39023-57**

**Date Collected: 05/07/18 09:45**

**Matrix: Solid**

**Date Received: 05/08/18 09:00**

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	0.022	U	0.10	0.0057	mg/L		05/21/18 08:55	05/25/18 21:36	1
2,4,5-Trichlorophenol	0.0050	U	0.050	0.0022	mg/L		05/21/18 08:55	05/25/18 21:36	1
2,4,6-Trichlorophenol	0.0050	U	0.025	0.0014	mg/L		05/21/18 08:55	05/25/18 21:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	100		49 - 120				05/21/18 08:55	05/25/18 21:36	1
2-Fluorophenol (Surr)	90		50 - 120				05/21/18 08:55	05/25/18 21:36	1
2,4,6-Tribromophenol (Surr)	97		51 - 120				05/21/18 08:55	05/25/18 21:36	1
Nitrobenzene-d5 (Surr)	88		51 - 120				05/21/18 08:55	05/25/18 21:36	1
Phenol-d5 (Surr)	78		47 - 120				05/21/18 08:55	05/25/18 21:36	1
Terphenyl-d14 (Surr)	94		56 - 120				05/21/18 08:55	05/25/18 21:36	1

**Client Sample ID: IDW-KINGSLEY-WA-LDOS01**

**Lab Sample ID: 320-39023-58**

**Date Collected: 05/07/18 09:30**

**Matrix: Water**

**Date Received: 05/08/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0040	U	0.010	0.0016	mg/L			05/21/18 17:50	1
2-Butanone (MEK)	0.040	U	0.10	0.018	mg/L			05/21/18 17:50	1
Carbon tetrachloride	0.0040	U	0.010	0.0019	mg/L			05/21/18 17:50	1
Chlorobenzene	0.0040	U	0.010	0.0017	mg/L			05/21/18 17:50	1
Chloroform	0.0040	U	0.010	0.0016	mg/L			05/21/18 17:50	1
1,2-Dichloroethane	0.0040	U	0.010	0.0013	mg/L			05/21/18 17:50	1
1,1-Dichloroethene	0.0080	U	0.010	0.0023	mg/L			05/21/18 17:50	1
Tetrachloroethene	0.0040	U	0.010	0.0020	mg/L			05/21/18 17:50	1
Trichloroethene	0.0040	U	0.010	0.0016	mg/L			05/21/18 17:50	1
Vinyl chloride	0.0020	U	0.010	0.0010	mg/L			05/21/18 17:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		78 - 120					05/21/18 17:50	1
1,2-Dichloroethane-d4 (Surr)	109		64 - 129					05/21/18 17:50	1
4-Bromofluorobenzene (Surr)	95		78 - 121					05/21/18 17:50	1
Dibromofluoromethane (Surr)	103		79 - 119					05/21/18 17:50	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.010	U	0.050	0.0049	mg/L		05/21/18 08:46	05/25/18 20:46	1
3 & 4 Methylphenol	0.0025	U	0.050	0.0013	mg/L		05/21/18 08:46	05/25/18 20:46	1
1,4-Dichlorobenzene	0.020	U	0.020	0.0016	mg/L		05/21/18 08:46	05/25/18 20:46	1
2,4-Dinitrotoluene	0.022	U	0.050	0.0083	mg/L		05/21/18 08:46	05/25/18 20:46	1
Hexachlorobenzene	0.010	U	0.050	0.0033	mg/L		05/21/18 08:46	05/25/18 20:46	1
Hexachlorobutadiene	0.050	U	0.050	0.017	mg/L		05/21/18 08:46	05/25/18 20:46	1
Hexachloroethane	0.022	U	0.050	0.011	mg/L		05/21/18 08:46	05/25/18 20:46	1
Nitrobenzene	0.010	U	0.050	0.0041	mg/L		05/21/18 08:46	05/25/18 20:46	1
Pentachlorophenol	0.20	U	0.25	0.10	mg/L		05/21/18 08:46	05/25/18 20:46	1
Pyridine	0.022	U	0.10	0.0057	mg/L		05/21/18 08:46	05/25/18 20:46	1
2,4,5-Trichlorophenol	0.0050	U M	0.050	0.0022	mg/L		05/21/18 08:46	05/25/18 20:46	1
2,4,6-Trichlorophenol	0.0050	U M	0.025	0.0014	mg/L		05/21/18 08:46	05/25/18 20:46	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: IDW-KINGSLEY-WA-LDOS01**

**Lab Sample ID: 320-39023-58**

**Date Collected: 05/07/18 09:30**

**Matrix: Water**

**Date Received: 05/08/18 09:00**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	68		49 - 120	05/21/18 08:46	05/25/18 20:46	1
2-Fluorophenol (Surr)	51		50 - 120	05/21/18 08:46	05/25/18 20:46	1
2,4,6-Tribromophenol (Surr)	92		51 - 120	05/21/18 08:46	05/25/18 20:46	1
Nitrobenzene-d5 (Surr)	56		51 - 120	05/21/18 08:46	05/25/18 20:46	1
Phenol-d5 (Surr)	51		47 - 120	05/21/18 08:46	05/25/18 20:46	1
Terphenyl-d14 (Surr)	90		56 - 120	05/21/18 08:46	05/25/18 20:46	1

**Client Sample ID: KLA07-SD1-01D**

**Lab Sample ID: 320-39023-59**

**Date Collected: 05/06/18 11:30**

**Matrix: Solid**

**Date Received: 05/08/18 09:00**

**Percent Solids: 73.7**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.12	J	0.40	0.10	ug/Kg	☼	05/19/18 09:21	05/31/18 02:30	1
Perfluorooctanoic acid (PFOA)	0.48		0.40	0.13	ug/Kg	☼	05/19/18 09:21	05/31/18 02:30	1
Perfluorononanoic acid (PFNA)	0.27	U	0.40	0.11	ug/Kg	☼	05/19/18 09:21	05/31/18 02:30	1
Perfluorobutanesulfonic acid (PFBS)	0.20	J	0.54	0.079	ug/Kg	☼	05/19/18 09:21	05/31/18 02:30	1
Perfluorohexanesulfonic acid (PFHxS)	2.1		0.40	0.083	ug/Kg	☼	05/19/18 09:21	05/31/18 02:30	1
Perfluorooctanesulfonic acid (PFOS)	15	J1 =	1.3	0.32	ug/Kg	☼	05/19/18 09:21	05/31/18 02:30	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	73		50 - 150				05/19/18 09:21	05/31/18 02:30	1
13C4-PFHpA	81		50 - 150				05/19/18 09:21	05/31/18 02:30	1
13C4 PFOA	88		50 - 150				05/19/18 09:21	05/31/18 02:30	1
13C5 PFNA	94		50 - 150				05/19/18 09:21	05/31/18 02:30	1
18O2 PFHxS	79		50 - 150				05/19/18 09:21	05/31/18 02:30	1
13C4 PFOS	78		50 - 150				05/19/18 09:21	05/31/18 02:30	1



**APPENDIX E**

**LABORATORY ANALYTICAL DATA REPORTS**

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## ANALYTICAL REPORT

Job Number: 320-39023-1

Job Description: Phase III, ANG-Kingsley

For:

Leidos, Inc.

11251 Roger Bacon Drive

Reston, VA 20190

Attention: Selvam Arunachalam



Approved for release.  
David R Alltucker  
Project Manager I  
6/13/2018 2:08 PM

---

David R Alltucker, Project Manager I  
880 Riverside Parkway, West Sacramento, CA, 95605  
(916)374-4383  
david.alltucker@testamericainc.com  
06/13/2018



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# Definitions/Glossary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

### GC/MS Semi VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
M	Manual integrated compound.
J	Estimated: The analyte was positively identified; the quantitation is an estimation

### LCMS

Qualifier	Qualifier Description
M	Manual integrated compound.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
E	Result exceeded calibration range.
D	The reported value is from a dilution.
U	Undetected at the Limit of Detection.
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
Q	One or more quality control criteria failed.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

**Job Narrative**  
**320-39023-1**

**Receipt**

The samples were received on 5/8/2018 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.9° C.

**Receipt Exceptions**

The container label time for the following samples did not match the information listed on the Chain-of-Custody (COC): IDW-KINGSLEY-SO-LDOS01 (320-39023-57). The container time lists 09:40, while the COC lists 09:45.

Samples #33 and #55 were labeled the same, neither label had indication it was a Duplicate. The label that was hand written #55 was used as the duplicate sample. KLA05-SB1-01 (320-39023-33) and KLA05-SB1-01D (320-39023-55)

**GC/MS VOA**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**LCMS**

Method(s) 537 (modified), EPA 537 (Mod), EPA 537(Mod): The first level standard from the initial calibration curve is used to evaluate the tune criteria. The instrument mass windows are set at +/- 0.5amu; therefore, detection of the analyte serves as verification that the assigned mass is within +/- 0.5amu of the true value, which meets the DoD/DOE QSM tune criterion.

Method(s) EPA 537 (Mod): Isotope dilution analyte (IDA) recovery was outside acceptance limits for the following matrix spike (MS) sample: (320-38935-A-32-B MS). The parent sample's surrogate recovery was within limits. The MS sample has been qualified and reported.

Method(s) EPA 537 (Mod): The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with preparation batch 320-223615 and analytical batch 320-225818 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Perfluorobutanesulfonic acid (PFBS), Perfluorohexanesulfonic acid (PFHxS), Perfluorohexanoic acid (PFHxA) and Perfluorooctanoic acid (PFOA) in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method(s) EPA 537 (Mod): Due to the high concentration of Perfluorobutanesulfonic acid (PFBS), Perfluorohexanesulfonic acid (PFHxS), Perfluorohexanoic acid (PFHxA) and Perfluorooctanoic acid (PFOA), the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-223615 and analytical batch 320-225818 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) EPA 537 (Mod): The matrix spike / matrix spike duplicate (MS/MSD) recoveries for multi analytes for preparation batch 320-223091 and analytical batch 320-227681 were outside control limits. Sample matrix interference are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) EPA 537 (Mod): Due to the high concentration of Perfluorohexanesulfonic acid (PFHxS) and Perfluorooctanesulfonic acid (PFOS), the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-223091 and analytical batches 320-227681 and 320-226044 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) EPA 537 (Mod): Due to the high concentration of several analytes, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-224065 and analytical batch 320-226055 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) EPA 537 (Mod): Due to the high concentration of Perfluorooctanesulfonic acid (PFOS), the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-224254 and analytical batch 320-226343 could not be evaluated for accuracy and precision for this analyte. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) EPA 537 (Mod): The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 320-224065 and analytical batch 320-225820 were outside control limits for several analytes. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) EPA 537 (Mod): The matrix spike duplicate (MSD) recovery for preparation batch 320-223092 and analytical batch 320-225899 was outside control limits for Perfluorooctanesulfonic acid (PFOS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) EPA 537 (Mod): The concentration of Perfluorooctanesulfonic acid (PFOS) associated with the following samples exceeded the instrument calibration range: MW-KLA01-01-01 (320-39023-1), MW-KLA03-01-01 (320-39023-3), MW-572-02-PRL05-01 (320-39023-6) and MW-572-02-PRL05-01D (320-39023-49). This analyte has been qualified; however, the peaks did not saturate the instrument detector. A dilution was performed to bring the concentration of this analyte within instrument calibration range and both sets of data have been reported.

Method(s) EPA 537 (Mod): The concentration of several analytes associated with the following samples exceeded the instrument calibration range: MW-KLA02-01-01 (320-39023-2), MW-573-03-PRL05-01 (320-39023-5), MW-573-03-PRL05-01 (320-39023-5[MS]),

MW-573-03-PRL05-01 (320-39023-5[MSD]) and MW-KLA06-01-01 (320-39023-7). These analytes have been qualified; however, the peaks did not saturate the instrument detector. A dilution was performed to bring the concentration of these analytes within instrument calibration range and both sets of data have been reported.

Method(s) EPA 537 (Mod): The concentration of Perfluorohexanesulfonic acid (PFHxS) associated with the following sample exceeded the instrument calibration range: MW-KLA04-01-01 (320-39023-4). This analyte has been qualified; however, the peak did not saturate the instrument detector. This sample has been diluted to bring the concentration of PFHxS within instrument calibration range and both sets of data have been reported.

Method(s) EPA 537 (Mod): The concentration of Perfluorohexanesulfonic acid (PFHxS) and Perfluorooctanesulfonic acid (PFOS) associated with the following samples exceeded the instrument calibration range: MW-573-03-PRL05-01 (320-39023-5), MW-573-03-PRL05-01 (320-39023-5[MS]), MW-573-03-PRL05-01 (320-39023-5[MSD]) and MW-KLA06-01-01 (320-39023-7). These analytes have been qualified; however, the peaks did not saturate the instrument detector. These samples have been analyzed at the maximum dilution of 100X and, by client request, were not diluted further to bring the concentration of these analytes within instrument calibration range. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Method(s) EPA 537 (Mod): Results for samples KLA-01-SB1-01 (320-39023-9), KLA-01-SB1-02 (320-39023-10), KLA06-SB1-01 (320-39023-39), KLA06-SB1-02 (320-39023-40), KLA06-SB2-01 (320-39023-41), KLA06-SB2-01 (320-39023-41[MS]), KLA06-SB2-01 (320-39023-41[MSD]), KLA06-SB2-02 (320-39023-42), KLA06-SB-2-02D (320-39023-52) and KLA05-SB1-01D (320-39023-55) were reported from the analysis of a diluted extract due to high concentration of target analytes in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method(s) EPA 537 (Mod): The concentration of Perfluorooctanesulfonic acid (PFOS) associated with the following samples exceeded the instrument calibration range: KLA-01-SB1-01 (320-39023-9), KLA-01-SB1-02 (320-39023-10), KLA06-SB1-01 (320-39023-39) and KLA06-SB1-02 (320-39023-40). This analyte has been qualified; however, the peaks did not saturate the instrument detector. These samples have been diluted to bring the concentration of PFOS within instrument calibration range and both sets of data have been reported.

Method(s) EPA 537 (Mod): Results for samples KLA02-SB2-01 (320-39023-17), KLA02-SB2-02 (320-39023-18), KLA02-SB3-01 (320-39023-19), KLA04-SB1-01 (320-39023-27), KLA04-SB1-02 (320-39023-28), KLA04-SB2-01 (320-39023-29), KLA04-SB2-02 (320-39023-30), KLA04-SB3-01 (320-39023-31), KLA04-SB3-02 (320-39023-32), KLA05-SB1-01 (320-39023-33), KLA05-SB2-01 (320-39023-35), KLA05-SB2-02 (320-39023-36), KLA05-SB3-01 (320-39023-37), KLA05-SB3-02 (320-39023-38) and KLA02-SB2-02D (320-39023-53) were reported from the analysis of a diluted extract due to high concentration of target analytes in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method(s) EPA 537 (Mod): The concentration of Perfluorooctanesulfonic acid (PFOS) associated with the following samples exceeded the instrument calibration range: KLA02-SB2-01 (320-39023-17), KLA02-SB3-01 (320-39023-19), KLA04-SB1-01 (320-39023-27), KLA05-SB2-01 (320-39023-35), KLA05-SB2-02 (320-39023-36) and KLA05-SB3-02 (320-39023-38). This analyte has been qualified; however, the peaks did not saturate the instrument detector. These samples have been diluted to bring the concentration of target analytes within instrument calibration range and both sets of data have been reported.

Method(s) EPA 537 (Mod): The concentration of Perfluorohexanesulfonic acid (PFHxS) and Perfluorooctanesulfonic acid (PFOS) associated with the following samples exceeded the instrument calibration range: KLA02-SB2-02 (320-39023-18), KLA04-SB1-02 (320-39023-28), KLA04-SB3-01 (320-39023-31), KLA05-SB1-01 (320-39023-33) and KLA02-SB2-02D (320-39023-53). These analytes have been qualified; however, the peaks did not saturate the instrument detector. These samples have been diluted to bring the concentration of target analytes within instrument calibration range and both sets of data have been reported.

Method(s) EPA 537 (Mod): The concentration of Perfluorooctanesulfonic acid (PFOS) associated with the following samples exceeded the instrument calibration range: KLA04-SB1-02 (320-39023-28), KLA04-SB3-01 (320-39023-31), KLA05-SB3-01 (320-39023-37) and KLA05-SB3-02 (320-39023-38). This analyte has been qualified; however, the peak did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range. The maximum dilution was performed. The client was contacted and permission was given to report with an "E" qualifier.

Method(s) EPA 537 (Mod): Results for samples KLA04-SB1-02 (320-39023-28) and KLA04-SB3-01 (320-39023-31) were reported from the analysis of a diluted extract due to high concentration of Perfluorooctanesulfonic acid (PFOS) in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method(s) EPA 537 (Mod): The concentration of several analytes associated with the following samples exceeded the instrument calibration range: KLA04-SB2-01 (320-39023-29), KLA04-SB2-02 (320-39023-30), KLA04-SB3-02 (320-39023-32) and KLA05-SB3-01 (320-39023-37). These analytes have been qualified; however, the peaks did not saturate the instrument detector. These samples have been diluted to bring the concentration of target analytes within instrument calibration range and both sets of data have been reported.

Method(s) EPA 537 (Mod): The concentration of Perfluorohexanesulfonic acid (PFHxS) and Perfluorooctanesulfonic acid (PFOS) associated with the following samples exceeded the instrument calibration range: KLA06-SB2-01 (320-39023-41), KLA06-SB2-01 (320-39023-41[MS]), KLA06-SB2-01 (320-39023-41[MSD]), KLA06-SB2-02 (320-39023-42), KLA06-SB-2-02D (320-39023-52) and KLA05-SB1-01D (320-39023-55). These analytes have been qualified; however, the peaks did not saturate the instrument detector.

These samples have been diluted to bring the concentration of these analytes within instrument calibration range and both sets of data have been reported.

Method(s) EPA 537 (Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit for 13C4 PFOS and 18O2 PFHxS: (320-38935-A-32-B MS). Matrix interference is suspected because these samples were diluted due to high target analytes and the IDA recoveries in the analysis of the diluted extract were within method recommended limits. Both sets of data have been reported. Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

Method(s) EPA 537 (Mod): Internal standard (ISTD) responses for the following samples were outside control limits: MW-KLA02-01-01 (320-39023-2), MW-573-03-PRL05-01 (320-39023-5), MW-573-03-PRL05-01 (320-39023-5[MS]), MW-573-03-PRL05-01 (320-39023-5[MSD]) and MW-KLA06-01-01 (320-39023-7). Matrix interference is suspected because the samples were diluted to bring the concentrations of several target analytes within instrument calibration range and the ISTD responses in the analysis of the diluted extracts were within control limits.

Method(s) EPA 537 (Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit for 13C4-PFHpA and 13C4 PFOS: MW-573-03-PRL05-01 (320-39023-5), MW-573-03-PRL05-01 (320-39023-5[MS]), MW-573-03-PRL05-01 (320-39023-5[MSD]) and MW-KLA06-01-01 (320-39023-7). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

Method(s) EPA 537 (Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit for several analytes: MW-KLA02-01-01 (320-39023-2). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

Method(s) EPA 537 (Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit for 13C4 PFOS: MW-KLA02-01-01 (320-39023-2) and MW-KLA06-01-01 (320-39023-7). Interference from the native analyte is suspected due to the high levels of PFOS in the sample. By client request, a larger dilution was not performed to bring the concentration of the target analyte within calibration range. Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

Method(s) EPA 537 (Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit for 13C4 PFOS: KLA-01-SB1-01 (320-39023-9), KLA06-SB2-01 (320-39023-41[MS]), KLA06-SB2-01 (320-39023-41[MSD]), KLA06-SB2-02 (320-39023-42) and KLA06-SB-2-02D (320-39023-52). Matrix interference is suspected because these samples were diluted due to high targets and the IDA recoveries associated with the diluted extracts were within method recommended limits. Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

Method(s) EPA 537 (Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit for 13C5 PFNA: KLA06-SB2-01 (320-39023-41[MS]), KLA06-SB2-01 (320-39023-41[MSD]) and KLA06-SB2-02 (320-39023-42). Sample matrix interference is suspected because the samples were diluted due to high targets and the IDA recoveries associated with the diluted extracts are within the method recommended limits. Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

Method(s) EPA 537 (Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit for 13C5 PFNA and 13C4 PFOS: KLA04-SB1-01 (320-39023-27), KLA04-SB1-02 (320-39023-28), KLA04-SB2-01 (320-39023-29) and KLA04-SB3-01 (320-39023-31). Sample matrix interference is suspected because these samples were diluted to bring the concentration of target analytes within instrument calibration range and IDA recoveries in the diluted extracts were within method recommended limits. Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

Method(s) EPA 537 (Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit for 13C4 PFOS: KLA04-SB2-02 (320-39023-30), KLA04-SB3-02 (320-39023-32) and KLA05-SB3-02 (320-39023-38). Sample matrix interference is suspected because these samples were diluted to bring the concentration of target analytes within instrument calibration range and IDA recoveries in the diluted extracts were within method recommended limits. Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

Method(s) EPA 537 (Mod): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit for several analytes: KLA05-SB3-01 (320-39023-37). Sample matrix interference is suspected because this sample was diluted to bring the concentration of target analytes within instrument calibration range and IDA recoveries in the diluted extract were within method recommended limits. Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **Organic Prep**

Method(s) 3535: The following sample: MW-KLA01-01-01 (320-39023-1), MW-KLA02-01-01 (320-39023-2), MW-KLA03-01-01 (320-39023-3), MW-KLA04-01-01 (320-39023-4) and MW-KLA06-01-01 (320-39023-7) in preparation batch 320-224065 was observed to be a yellow color prior to extraction.



Method(s) 3535: The following samples: MW-KLA01-01-01 (320-39023-1), MW-KLA02-01-01 (320-39023-2), MW-KLA03-01-01 (320-39023-3), MW-KLA04-01-01 (320-39023-4) and MW-KLA06-01-01 (320-39023-7) in preparation batch 320-224065 were centrifuged prior to preparation due to having sediment present, which could potentially clog the solid-phase column.

Method(s) 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-224509.

Method(s) 3535: The following samples: KLA08-SW1-01 (320-39023-8) in preparation batch 320-224509 were observed to be a yellow color prior to extraction.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: MW-KLA01-01-01

## Lab Sample ID: 320-39023-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	7.6		1.9	0.59	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	20		1.9	0.52	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.56	J M	1.9	0.50	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	39	M	1.9	0.44	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	220		1.9	0.37	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	510	E	3.9	1.1	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	7.5	J D	9.7	2.9	ng/L	5		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	22	D	9.7	2.6	ng/L	5		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	40	D M	9.7	2.2	ng/L	5		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	230	D	9.7	1.8	ng/L	5		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	500	D	19	5.3	ng/L	5		EPA 537 (Mod)	Total/NA

## Client Sample ID: MW-KLA02-01-01

## Lab Sample ID: 320-39023-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	7300	E	1.8	0.55	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	13000	E M	1.8	0.49	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	340	M	1.8	0.47	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1500	E M	1.8	0.42	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	14000	E M	1.8	0.34	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	88000	E M	3.6	1.0	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	7700	D	180	55	ng/L	100		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	21000	D	180	49	ng/L	100		EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA) - DL	340	D M	180	47	ng/L	100		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	9700	D	180	42	ng/L	100		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	66000	E D	180	34	ng/L	100		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	380000	E D	360	100	ng/L	100		EPA 537 (Mod)	Total/NA

## Client Sample ID: MW-KLA03-01-01

## Lab Sample ID: 320-39023-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	200		2.0	0.61	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	290		2.0	0.54	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	16	M	2.0	0.52	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	180		2.0	0.46	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1800	E	2.0	0.38	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5200	E	4.0	1.1	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	190	D	100	30	ng/L	50		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	300	D	100	27	ng/L	50		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	170	D	100	23	ng/L	50		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	2700	D	100	19	ng/L	50		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	6100	D M	200	55	ng/L	50		EPA 537 (Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

# Detection Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: MW-KLA04-01-01

## Lab Sample ID: 320-39023-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	27		2.0	0.60	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	41		2.0	0.53	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	96		2.0	0.45	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	610	E	2.0	0.38	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	100		4.0	1.1	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	31	D	9.9	3.0	ng/L	5		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	43	D	9.9	2.7	ng/L	5		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	95	D	9.9	2.3	ng/L	5		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	690	D	9.9	1.9	ng/L	5		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	100	D	20	5.4	ng/L	5		EPA 537 (Mod)	Total/NA

## Client Sample ID: MW-573-03-PRL05-01

## Lab Sample ID: 320-39023-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	4400	E J1	2.0	0.60	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	4700	E J1	2.0	0.54	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	200	J1	2.0	0.52	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1900	E J1 M	2.0	0.46	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	12000	E J1	2.0	0.38	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	32000	J1 E M	4.0	1.1	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	5100	J1 D	200	60	ng/L	100		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	6700	J1 D	200	54	ng/L	100		EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA) - DL	190	J J1 D M	200	52	ng/L	100		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	3900	J1 D	200	46	ng/L	100		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	39000	E J1 D	200	38	ng/L	100		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	63000	J1 E D	400	110	ng/L	100		EPA 537 (Mod)	Total/NA

## Client Sample ID: MW-572-02-PRL05-01

## Lab Sample ID: 320-39023-6

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	25		1.9	0.57	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	56		1.9	0.51	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	3.8		1.9	0.49	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	27		1.9	0.43	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	360	E	1.9	0.36	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1100	E M	3.8	1.0	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	23	D	19	5.7	ng/L	10		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	55	D	19	5.1	ng/L	10		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	27	D	19	4.3	ng/L	10		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	360	D	19	3.6	ng/L	10		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	1100	D	38	10	ng/L	10		EPA 537 (Mod)	Total/NA

## Client Sample ID: MW-KLA06-01-01

## Lab Sample ID: 320-39023-7

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

# Detection Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: MW-KLA06-01-01 (Continued)

## Lab Sample ID: 320-39023-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	6100	E	1.9	0.59	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	11000	E M	1.9	0.52	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	500	E M	1.9	0.50	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1600	E	1.9	0.45	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	17000	E M	1.9	0.37	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	57000	E	3.9	1.1	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL2	5400	D	190	59	ng/L	100		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL2	14000	D	190	52	ng/L	100		EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA) - DL2	490	D	190	50	ng/L	100		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL2	7900	D	190	45	ng/L	100		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL2	68000	E D	190	37	ng/L	100		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL2	130000	E D	390	110	ng/L	100		EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA08-SW1-01

## Lab Sample ID: 320-39023-8

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	1.5	J M	1.9	0.58	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.8	J M	1.9	0.52	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.95	J M	1.9	0.50	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.7	M	1.9	0.36	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	28	M	3.8	1.1	ng/L	1		EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA-01-SB1-01

## Lab Sample ID: 320-39023-9

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.38		0.38	0.098	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	3.9		0.38	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.31	J	0.50	0.074	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	18		0.38	0.078	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	240	E	1.3	0.30	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	3.9	J D M	7.5	2.5	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	17	D	7.5	1.6	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	430	D	25	6.0	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA-01-SB1-02

## Lab Sample ID: 320-39023-10

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.32	J	0.38	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.0		0.38	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.31	J	0.51	0.075	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	9.1		0.38	0.079	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	150	E	1.3	0.31	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	9.1	D	7.7	1.6	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	210	D	26	6.1	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

# Detection Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: KLA-01-SB2-01

## Lab Sample ID: 320-39023-11

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.30	J	0.34	0.11	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.072	J	0.45	0.066	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.5		0.34	0.070	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.7		1.1	0.27	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA-01-SB2-02

## Lab Sample ID: 320-39023-12

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.14	J	0.39	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.39		0.39	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.15	J	0.52	0.077	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.4		0.39	0.081	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2	M	1.3	0.31	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA-01-SB3-01

## Lab Sample ID: 320-39023-13

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.22	J	0.38	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.13	J	0.51	0.075	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.3		0.38	0.079	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	10		1.3	0.30	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA-01-SB3-02

## Lab Sample ID: 320-39023-14

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.32	J	0.38	0.078	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.1	J	1.3	0.30	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA02-SB1-01

## Lab Sample ID: 320-39023-15

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.16	J	0.39	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.46	M	0.39	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.25	J	0.52	0.077	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.6		0.39	0.081	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.6	J1	1.3	0.31	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA02-SB1-02

## Lab Sample ID: 320-39023-16

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.18	J	0.36	0.095	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.28	J M	0.36	0.12	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.22	J	0.49	0.072	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.6		0.36	0.075	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.1		1.2	0.29	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA02-SB2-01

## Lab Sample ID: 320-39023-17

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	1.1		0.37	0.097	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento



# Detection Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: KLA02-SB2-01 (Continued)

## Lab Sample ID: 320-39023-17

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	2.2		0.37	0.12	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.38		0.37	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.1		0.50	0.074	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	21		0.37	0.077	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	270	E	1.2	0.30	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	21	J D	37	7.7	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	390	D	120	30	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA02-SB2-02

## Lab Sample ID: 320-39023-18

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	6.0		0.51	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	18		0.51	0.17	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.30	J	0.51	0.14	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	26		0.68	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	110	E	0.51	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	410	E	1.7	0.41	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	6.4	J D	10	2.6	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	17	D	10	3.4	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	30	D	14	2.0	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	130	D	10	2.1	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	570	D M	34	8.1	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA02-SB3-01

## Lab Sample ID: 320-39023-19

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.47		0.36	0.094	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.45		0.36	0.12	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.40		0.36	0.098	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.50		0.48	0.071	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.4		0.36	0.075	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	110	E M	1.2	0.29	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	5.7	J D	7.2	1.5	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	140	D	24	5.8	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA02-SB3-02

## Lab Sample ID: 320-39023-20

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.81		0.41	0.11	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.0		0.41	0.14	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.12	J M	0.41	0.11	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.8		0.55	0.081	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	9.4		0.41	0.086	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	21	M	1.4	0.33	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

# Detection Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: KLA03-SB1-01

## Lab Sample ID: 320-39023-21

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	0.082	J	0.52	0.076	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.99		0.39	0.080	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.0		1.3	0.31	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA03-SB1-02

## Lab Sample ID: 320-39023-22

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.22	J M	0.40	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.21	J	0.53	0.078	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.4		0.40	0.082	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	17		1.3	0.32	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA03-SB2-01

## Lab Sample ID: 320-39023-23

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.15	J	0.37	0.12	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.10	J	0.49	0.072	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.71		0.37	0.076	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.4		1.2	0.29	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA03-SB2-02

## Lab Sample ID: 320-39023-24

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.15	J	0.38	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.15	J	0.51	0.075	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.1		0.38	0.079	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.9	M	1.3	0.31	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA03-SB3-01

## Lab Sample ID: 320-39023-25

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.36	J	0.41	0.11	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.37	J	0.41	0.14	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.21	J	0.54	0.080	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.7		0.41	0.084	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2		1.4	0.32	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA03-SB3-02

## Lab Sample ID: 320-39023-26

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.59		0.41	0.11	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.3		0.41	0.14	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.75		0.54	0.080	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	12		0.41	0.084	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	14	M	1.4	0.32	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA04-SB1-01

## Lab Sample ID: 320-39023-27

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.66		0.42	0.11	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

# Detection Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: KLA04-SB1-01 (Continued)

## Lab Sample ID: 320-39023-27

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	3.2		0.42	0.14	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.16	J M	0.42	0.11	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.45	J	0.56	0.082	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	24		0.42	0.086	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	930	E	1.4	0.33	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	23	J D	42	8.6	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	2200	D	140	33	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA04-SB1-02

## Lab Sample ID: 320-39023-28

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	4.4		0.39	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	19		0.39	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.60	M	0.39	0.11	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	14		0.52	0.077	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	130	E	0.39	0.081	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1800	E M	1.3	0.31	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	4.0	J D	7.8	2.0	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	19	D	7.8	2.6	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	15	D	10	1.5	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	190	D	7.8	1.6	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	2900	E D	26	6.3	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL2	17	J D	39	13	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL2	10	J D	52	7.7	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL2	160	D	39	8.1	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL2	3600	E D M	130	31	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA04-SB2-01

## Lab Sample ID: 320-39023-29

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	14		0.38	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	27	E	0.38	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1.6	M	0.38	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	24	E	0.51	0.075	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	140	E	0.38	0.079	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2600	E	1.3	0.31	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	14	J D	38	10	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	26	J D M	38	13	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	14	J D	51	7.5	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	200	D	38	7.9	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	6600	E D	130	31	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

# Detection Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: KLA04-SB2-02

## Lab Sample ID: 320-39023-30

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	45	E	0.39	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	200	E	0.39	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1.6		0.39	0.11	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	91	E	0.53	0.078	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	510	E	0.39	0.082	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2100	E	1.3	0.32	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	44	D	39	10	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	210	D	39	13	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	84	D	53	7.8	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	1100	D	39	8.2	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	4800	E D M	130	32	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA04-SB3-01

## Lab Sample ID: 320-39023-31

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	3.8		0.38	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	12		0.38	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1.1	M	0.38	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	19		0.51	0.076	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	51	E	0.38	0.079	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1600	E	1.3	0.31	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	3.7	J D	7.7	2.0	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	12	D	7.7	2.6	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	24	D	10	1.5	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	53	D	7.7	1.6	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	3500	E D	26	6.1	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL2	13	J D	38	13	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL2	16	J D	51	7.6	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL2	61	D	38	7.9	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL2	4500	E D	130	31	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA04-SB3-02

## Lab Sample ID: 320-39023-32

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	29		0.46	0.12	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	83	E	0.46	0.15	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1.2		0.46	0.12	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	80	E	0.61	0.091	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	410	E	0.46	0.095	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1900	E M	1.5	0.37	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	27	D	9.2	2.4	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	85	D	9.2	3.1	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	110	D	12	1.8	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

# Detection Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: KLA04-SB3-02 (Continued)

## Lab Sample ID: 320-39023-32

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS) - DL	730	E D	9.2	1.9	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	3500	E D M	31	7.4	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL2	33	J D	46	12	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL2	79	D	46	15	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL2	110	D	61	9.1	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL2	730	D	46	9.5	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL2	3800	E D M	150	37	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA05-SB1-01

## Lab Sample ID: 320-39023-33

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	1.6		0.38	0.098	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	2.3		0.38	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.61	M	0.38	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.9		0.50	0.074	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	74	E	0.38	0.078	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	130	E	1.3	0.30	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	6.2	J D	10	1.5	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	78	D	7.6	1.6	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	170	D	25	6.0	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA05-SB1-02

## Lab Sample ID: 320-39023-34

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.23	J	0.38	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.077	J	0.50	0.074	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.6		0.38	0.078	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.5		1.3	0.30	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA05-SB2-01

## Lab Sample ID: 320-39023-35

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.45		0.36	0.092	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.6		0.36	0.12	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.36		0.36	0.096	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.32	J	0.47	0.070	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	20		0.36	0.073	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	37	E	1.2	0.28	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	1.8	J D	3.6	1.2	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	20	D	3.6	0.73	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	40	D	12	2.8	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento



# Detection Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: KLA05-SB2-02

## Lab Sample ID: 320-39023-36

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.38	J	0.40	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.2		0.40	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.34	J M	0.40	0.11	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.29	J	0.53	0.078	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.9		0.40	0.082	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	40	E	1.3	0.32	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	1.3	J D	4.0	1.3	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	9.7	D	4.0	0.82	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	42	D M	13	3.2	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA05-SB3-01

## Lab Sample ID: 320-39023-37

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	14		0.36	0.092	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	57	E	0.36	0.12	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	2.6	M	0.36	0.096	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	6.7		0.47	0.070	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	430	E	0.36	0.073	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4600	E	1.2	0.28	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	13	J D	36	9.2	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	62	D	36	12	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	7.3	J D	47	7.0	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	650	D	36	7.3	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	14000	E D	120	28	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA05-SB3-02

## Lab Sample ID: 320-39023-38

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	1.5		0.37	0.097	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	3.8		0.37	0.12	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.25	J M	0.37	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.58		0.50	0.074	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	15		0.37	0.077	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	560	E	1.2	0.30	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	13	J D	37	7.7	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	980	D	120	30	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA06-SB1-01

## Lab Sample ID: 320-39023-39

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.71		0.41	0.11	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.3		0.41	0.14	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	2.4		0.41	0.11	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.27	J	0.54	0.080	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	11		0.41	0.084	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

# Detection Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: KLA06-SB1-01 (Continued)

## Lab Sample ID: 320-39023-39

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	190	M E	1.4	0.32	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA) - DL	2.5	J D	8.1	2.2	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	11	D	8.1	1.7	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	250	D	27	6.5	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA06-SB1-02

## Lab Sample ID: 320-39023-40

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.25	J	0.37	0.097	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.1		0.37	0.12	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1.4		0.37	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.19	J	0.50	0.073	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.8		0.37	0.077	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	100	M E	1.2	0.30	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	6.6	J D	7.4	1.5	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	120	D	25	6.0	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA06-SB2-01

## Lab Sample ID: 320-39023-41

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	1.2	J1	0.48	0.12	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	6.7	J1	0.48	0.16	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1.6		0.48	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.99		0.64	0.094	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	42	E J1	0.48	0.099	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	580	E J1	1.6	0.38	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	1.2	J D J1	4.8	1.2	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	6.7	D J1	4.8	1.6	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA) - DL	1.6	J D	4.8	1.3	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	1.0	J D J1	6.4	0.94	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	44	D J1	4.8	0.99	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	860	E D M J1	16	3.8	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL2	39	J D J1	48	9.9	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL2	960	D M J1	160	38	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA06-SB2-02

## Lab Sample ID: 320-39023-42

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	1.6		0.43	0.11	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	6.4		0.43	0.14	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1.7		0.43	0.12	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.1		0.57	0.084	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	40	E	0.43	0.089	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	920	E	1.4	0.34	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

# Detection Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: KLA06-SB2-02 (Continued)

## Lab Sample ID: 320-39023-42

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA) - DL	1.8	J D	4.3	1.1	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	6.2	D	4.3	1.4	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA) - DL	1.8	J D	4.3	1.2	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	2.1	J D	5.7	0.84	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	45	D	4.3	0.89	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	1300	E D	14	3.4	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL2	42	J D	43	8.9	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL2	1600	D	140	34	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA07-SD1-01

## Lab Sample ID: 320-39023-43

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	1.5		1.1	0.26	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: ER-01

## Lab Sample ID: 320-39023-44

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.88	J	1.7	0.51	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	1.7		1.7	0.46	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.40	J M	1.7	0.39	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.9		1.7	0.32	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	8.7		3.4	0.93	ng/L	1		EPA 537 (Mod)	Total/NA

## Client Sample ID: FB-01

## Lab Sample ID: 320-39023-45

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.61	J	1.7	0.32	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.7	J	3.3	0.91	ng/L	1		EPA 537 (Mod)	Total/NA

## Client Sample ID: ER-02

## Lab Sample ID: 320-39023-46

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.52	J M	1.7	0.47	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.0	J	1.7	0.33	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.4	M	3.5	0.96	ng/L	1		EPA 537 (Mod)	Total/NA

## Client Sample ID: ER-03

## Lab Sample ID: 320-39023-47

No Detections.

## Client Sample ID: ER-04

## Lab Sample ID: 320-39023-48

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.46	J	1.9	0.35	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.3	J	3.7	1.0	ng/L	1		EPA 537 (Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

# Detection Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: MW-572-02-PRL05-01D

## Lab Sample ID: 320-39023-49

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	24		1.9	0.58	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	57		1.9	0.51	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	3.9		1.9	0.50	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	28		1.9	0.44	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	370	E	1.9	0.36	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1200	E	3.8	1.0	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	24	D	19	5.8	ng/L	10		EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	62	D	19	5.1	ng/L	10		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	28	D	19	4.4	ng/L	10		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	390	D	19	3.6	ng/L	10		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	1200	D	38	10	ng/L	10		EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA03-SB-2-01D

## Lab Sample ID: 320-39023-51

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.16	J	0.38	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.098	J	0.51	0.076	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.71		0.38	0.080	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.7		1.3	0.31	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA06-SB-2-02D

## Lab Sample ID: 320-39023-52

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	1.0		0.44	0.12	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	4.1		0.44	0.15	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	1.8		0.44	0.12	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.4		0.59	0.087	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	41	E	0.44	0.091	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	690	E	1.5	0.35	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	1.4	J D	4.4	1.2	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	4.4	D	4.4	1.5	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA) - DL	1.8	J D	4.4	1.2	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	1.3	J D	5.9	0.87	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	45	D	4.4	0.91	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	1000	E D	15	3.5	ug/Kg	10	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL2	46	D	44	9.1	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL2	1100	D	150	35	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA02-SB2-02D

## Lab Sample ID: 320-39023-53

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	5.6		0.50	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	15		0.50	0.17	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	0.34	J M	0.50	0.14	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

# Detection Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: KLA02-SB2-02D (Continued)

## Lab Sample ID: 320-39023-53

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	24		0.67	0.099	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	95	E	0.50	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	380	E	1.7	0.40	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA) - DL	5.5	J D	10	2.6	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	14	D	10	3.3	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	23	D	13	2.0	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	110	D	10	2.1	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	490	D	33	8.0	ug/Kg	20	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA02-SB1-02D

## Lab Sample ID: 320-39023-54

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.11	J	0.39	0.10	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.25	J M	0.39	0.13	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.21	J	0.52	0.077	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.7		0.39	0.081	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	12		1.3	0.31	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: KLA05-SB1-01D

## Lab Sample ID: 320-39023-55

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	1.8		0.37	0.095	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	12		0.37	0.12	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorononanoic acid (PFNA)	2.8		0.37	0.099	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.1		0.49	0.072	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	170	E	0.37	0.076	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	390	E	1.2	0.29	ug/Kg	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	13	J D	37	12	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	300	D	37	7.6	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	650	D	120	29	ug/Kg	100	☼	EPA 537 (Mod)	Total/NA

## Client Sample ID: ER-05

## Lab Sample ID: 320-39023-56

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.74	J M	1.9	0.51	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.52	J	1.9	0.44	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.4		1.9	0.36	ng/L	1		EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	13		3.8	1.0	ng/L	1		EPA 537 (Mod)	Total/NA

## Client Sample ID: IDW-KINGSLEY-SO-LDOS01

## Lab Sample ID: 320-39023-57

No Detections.

## Client Sample ID: IDW-KINGSLEY-WA-LDOS01

## Lab Sample ID: 320-39023-58

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento



Detection Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

Client Sample ID: KLA07-SD1-01D      Lab Sample ID: 320-39023-59

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil	Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.12	J	0.40	0.10	ug/Kg	1		☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	0.48		0.40	0.13	ug/Kg	1		☼	EPA 537 (Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.20	J	0.54	0.079	ug/Kg	1		☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.1		0.40	0.083	ug/Kg	1		☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	15	J1	1.3	0.32	ug/Kg	1		☼	EPA 537 (Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-KLA01-01-01**

**Date Collected: 05/06/18 14:50**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-1**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	7.6		1.9	0.59	ng/L		05/18/18 10:26	05/28/18 11:18	1
Perfluorooctanoic acid (PFOA)	20		1.9	0.52	ng/L		05/18/18 10:26	05/28/18 11:18	1
Perfluorononanoic acid (PFNA)	0.56	J M	1.9	0.50	ng/L		05/18/18 10:26	05/28/18 11:18	1
Perfluorobutanesulfonic acid (PFBS)	39	M	1.9	0.44	ng/L		05/18/18 10:26	05/28/18 11:18	1
Perfluorohexanesulfonic acid (PFHxS)	220		1.9	0.37	ng/L		05/18/18 10:26	05/28/18 11:18	1
Perfluorooctanesulfonic acid (PFOS)	510	E	3.9	1.1	ng/L		05/18/18 10:26	05/28/18 11:18	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	75		50 - 150				05/18/18 10:26	05/28/18 11:18	1
13C4-PFHpA	79		50 - 150				05/18/18 10:26	05/28/18 11:18	1
13C4 PFOA	87		50 - 150				05/18/18 10:26	05/28/18 11:18	1
13C5 PFNA	81		50 - 150				05/18/18 10:26	05/28/18 11:18	1
18O2 PFHxS	80		50 - 150				05/18/18 10:26	05/28/18 11:18	1
13C4 PFOS	74		50 - 150				05/18/18 10:26	05/28/18 11:18	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	7.5	J D	9.7	2.9	ng/L		05/18/18 10:26	05/29/18 18:41	5
Perfluorooctanoic acid (PFOA)	22	D	9.7	2.6	ng/L		05/18/18 10:26	05/29/18 18:41	5
Perfluorononanoic acid (PFNA)	7.2	U M	9.7	2.5	ng/L		05/18/18 10:26	05/29/18 18:41	5
Perfluorobutanesulfonic acid (PFBS)	40	D M	9.7	2.2	ng/L		05/18/18 10:26	05/29/18 18:41	5
Perfluorohexanesulfonic acid (PFHxS)	230	D	9.7	1.8	ng/L		05/18/18 10:26	05/29/18 18:41	5
Perfluorooctanesulfonic acid (PFOS)	500	D	19	5.3	ng/L		05/18/18 10:26	05/29/18 18:41	5
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	72		50 - 150				05/18/18 10:26	05/29/18 18:41	5
13C4-PFHpA	77		50 - 150				05/18/18 10:26	05/29/18 18:41	5
13C4 PFOA	83		50 - 150				05/18/18 10:26	05/29/18 18:41	5
13C5 PFNA	77		50 - 150				05/18/18 10:26	05/29/18 18:41	5
18O2 PFHxS	72		50 - 150				05/18/18 10:26	05/29/18 18:41	5
13C4 PFOS	67		50 - 150				05/18/18 10:26	05/29/18 18:41	5

**Client Sample ID: MW-KLA02-01-01**

**Date Collected: 05/06/18 12:05**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-2**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	7300	E	1.8	0.55	ng/L		05/18/18 10:26	05/28/18 11:26	1
Perfluorooctanoic acid (PFOA)	13000	E M	1.8	0.49	ng/L		05/18/18 10:26	05/28/18 11:26	1
Perfluorononanoic acid (PFNA)	340	M	1.8	0.47	ng/L		05/18/18 10:26	05/28/18 11:26	1
Perfluorobutanesulfonic acid (PFBS)	1500	E M	1.8	0.42	ng/L		05/18/18 10:26	05/28/18 11:26	1
Perfluorohexanesulfonic acid (PFHxS)	14000	E M	1.8	0.34	ng/L		05/18/18 10:26	05/28/18 11:26	1
Perfluorooctanesulfonic acid (PFOS)	88000	E M	3.6	1.0	ng/L		05/18/18 10:26	05/28/18 11:26	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-KLA02-01-01**

**Date Collected: 05/06/18 12:05**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-2**

**Matrix: Water**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	321	Q	50 - 150	05/18/18 10:26	05/28/18 11:26	1
13C4-PFHpA	44	Q	50 - 150	05/18/18 10:26	05/28/18 11:26	1
13C4 PFOA	65		50 - 150	05/18/18 10:26	05/28/18 11:26	1
13C5 PFNA	40	Q	50 - 150	05/18/18 10:26	05/28/18 11:26	1
18O2 PFHxS	77		50 - 150	05/18/18 10:26	05/28/18 11:26	1
13C4 PFOS	28	Q	50 - 150	05/18/18 10:26	05/28/18 11:26	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	7700	D	180	55	ng/L		05/18/18 10:26	05/29/18 18:49	100
Perfluorooctanoic acid (PFOA)	21000	D	180	49	ng/L		05/18/18 10:26	05/29/18 18:49	100
Perfluorononanoic acid (PFNA)	340	D M	180	47	ng/L		05/18/18 10:26	05/29/18 18:49	100
Perfluorobutanesulfonic acid (PFBS)	9700	D	180	42	ng/L		05/18/18 10:26	05/29/18 18:49	100
Perfluorohexanesulfonic acid (PFHxS)	66000	E D	180	34	ng/L		05/18/18 10:26	05/29/18 18:49	100
Perfluorooctanesulfonic acid (PFOS)	380000	E D	360	100	ng/L		05/18/18 10:26	05/29/18 18:49	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	176	Q	50 - 150				05/18/18 10:26	05/29/18 18:49	100
13C4-PFHpA	54		50 - 150				05/18/18 10:26	05/29/18 18:49	100
13C4 PFOA	68		50 - 150				05/18/18 10:26	05/29/18 18:49	100
13C5 PFNA	53		50 - 150				05/18/18 10:26	05/29/18 18:49	100
18O2 PFHxS	96		50 - 150				05/18/18 10:26	05/29/18 18:49	100
13C4 PFOS	44	Q	50 - 150				05/18/18 10:26	05/29/18 18:49	100

**Client Sample ID: MW-KLA03-01-01**

**Date Collected: 05/06/18 15:55**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-3**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	200		2.0	0.61	ng/L		05/18/18 10:26	05/28/18 11:34	1
Perfluorooctanoic acid (PFOA)	290		2.0	0.54	ng/L		05/18/18 10:26	05/28/18 11:34	1
Perfluorononanoic acid (PFNA)	16	M	2.0	0.52	ng/L		05/18/18 10:26	05/28/18 11:34	1
Perfluorobutanesulfonic acid (PFBS)	180		2.0	0.46	ng/L		05/18/18 10:26	05/28/18 11:34	1
Perfluorohexanesulfonic acid (PFHxS)	1800	E	2.0	0.38	ng/L		05/18/18 10:26	05/28/18 11:34	1
Perfluorooctanesulfonic acid (PFOS)	5200	E	4.0	1.1	ng/L		05/18/18 10:26	05/28/18 11:34	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	75		50 - 150				05/18/18 10:26	05/28/18 11:34	1
13C4-PFHpA	69		50 - 150				05/18/18 10:26	05/28/18 11:34	1
13C4 PFOA	85		50 - 150				05/18/18 10:26	05/28/18 11:34	1
13C5 PFNA	62		50 - 150				05/18/18 10:26	05/28/18 11:34	1
18O2 PFHxS	66		50 - 150				05/18/18 10:26	05/28/18 11:34	1
13C4 PFOS	54		50 - 150				05/18/18 10:26	05/28/18 11:34	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	190	D	100	30	ng/L		05/18/18 10:26	05/29/18 19:04	50

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-KLA03-01-01**

**Lab Sample ID: 320-39023-3**

**Date Collected: 05/06/18 15:55**

**Matrix: Water**

**Date Received: 05/08/18 09:00**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	300	D	100	27	ng/L		05/18/18 10:26	05/29/18 19:04	50
Perfluorononanoic acid (PFNA)	75	U	100	26	ng/L		05/18/18 10:26	05/29/18 19:04	50
Perfluorobutanesulfonic acid (PFBS)	170	D	100	23	ng/L		05/18/18 10:26	05/29/18 19:04	50
Perfluorohexanesulfonic acid (PFHxS)	2700	D	100	19	ng/L		05/18/18 10:26	05/29/18 19:04	50
Perfluorooctanesulfonic acid (PFOS)	6100	D M	200	55	ng/L		05/18/18 10:26	05/29/18 19:04	50
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	68	M	50 - 150				05/18/18 10:26	05/29/18 19:04	50
13C4-PFHpA	72		50 - 150				05/18/18 10:26	05/29/18 19:04	50
13C4 PFOA	83		50 - 150				05/18/18 10:26	05/29/18 19:04	50
13C5 PFNA	77		50 - 150				05/18/18 10:26	05/29/18 19:04	50
18O2 PFHxS	72		50 - 150				05/18/18 10:26	05/29/18 19:04	50
13C4 PFOS	75		50 - 150				05/18/18 10:26	05/29/18 19:04	50

**Client Sample ID: MW-KLA04-01-01**

**Lab Sample ID: 320-39023-4**

**Date Collected: 05/06/18 14:15**

**Matrix: Water**

**Date Received: 05/08/18 09:00**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	27		2.0	0.60	ng/L		05/18/18 10:26	05/29/18 19:20	1
Perfluorooctanoic acid (PFOA)	41		2.0	0.53	ng/L		05/18/18 10:26	05/29/18 19:20	1
Perfluorononanoic acid (PFNA)	1.5	U M	2.0	0.51	ng/L		05/18/18 10:26	05/29/18 19:20	1
Perfluorobutanesulfonic acid (PFBS)	96		2.0	0.45	ng/L		05/18/18 10:26	05/29/18 19:20	1
Perfluorohexanesulfonic acid (PFHxS)	610	E	2.0	0.38	ng/L		05/18/18 10:26	05/29/18 19:20	1
Perfluorooctanesulfonic acid (PFOS)	100		4.0	1.1	ng/L		05/18/18 10:26	05/29/18 19:20	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	71		50 - 150				05/18/18 10:26	05/29/18 19:20	1
13C4-PFHpA	74		50 - 150				05/18/18 10:26	05/29/18 19:20	1
13C4 PFOA	80		50 - 150				05/18/18 10:26	05/29/18 19:20	1
13C5 PFNA	79		50 - 150				05/18/18 10:26	05/29/18 19:20	1
18O2 PFHxS	69		50 - 150				05/18/18 10:26	05/29/18 19:20	1
13C4 PFOS	69		50 - 150				05/18/18 10:26	05/29/18 19:20	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	31	D	9.9	3.0	ng/L		05/18/18 10:26	05/29/18 19:12	5
Perfluorooctanoic acid (PFOA)	43	D	9.9	2.7	ng/L		05/18/18 10:26	05/29/18 19:12	5
Perfluorononanoic acid (PFNA)	7.4	U M	9.9	2.6	ng/L		05/18/18 10:26	05/29/18 19:12	5
Perfluorobutanesulfonic acid (PFBS)	95	D	9.9	2.3	ng/L		05/18/18 10:26	05/29/18 19:12	5
Perfluorohexanesulfonic acid (PFHxS)	690	D	9.9	1.9	ng/L		05/18/18 10:26	05/29/18 19:12	5
Perfluorooctanesulfonic acid (PFOS)	100	D	20	5.4	ng/L		05/18/18 10:26	05/29/18 19:12	5

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-KLA04-01-01**

**Date Collected: 05/06/18 14:15**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-4**

**Matrix: Water**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	63		50 - 150	05/18/18 10:26	05/29/18 19:12	5
13C4-PFHpa	65		50 - 150	05/18/18 10:26	05/29/18 19:12	5
13C4 PFOA	75		50 - 150	05/18/18 10:26	05/29/18 19:12	5
13C5 PFNA	67		50 - 150	05/18/18 10:26	05/29/18 19:12	5
18O2 PFHxS	62		50 - 150	05/18/18 10:26	05/29/18 19:12	5
13C4 PFOS	62		50 - 150	05/18/18 10:26	05/29/18 19:12	5

**Client Sample ID: MW-573-03-PRL05-01**

**Date Collected: 05/06/18 09:15**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-5**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	4400	E J1	2.0	0.60	ng/L		05/18/18 10:26	05/28/18 11:50	1
Perfluorooctanoic acid (PFOA)	4700	E J1	2.0	0.54	ng/L		05/18/18 10:26	05/28/18 11:50	1
Perfluorononanoic acid (PFNA)	200	J1	2.0	0.52	ng/L		05/18/18 10:26	05/28/18 11:50	1
Perfluorobutanesulfonic acid (PFBS)	1900	E J1 M	2.0	0.46	ng/L		05/18/18 10:26	05/28/18 11:50	1
Perfluorohexanesulfonic acid (PFHxS)	12000	E J1	2.0	0.38	ng/L		05/18/18 10:26	05/28/18 11:50	1
Perfluorooctanesulfonic acid (PFOS)	32000	J1 E M	4.0	1.1	ng/L		05/18/18 10:26	05/28/18 11:50	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	136		50 - 150				05/18/18 10:26	05/28/18 11:50	1
13C4-PFHpA	46	Q	50 - 150				05/18/18 10:26	05/28/18 11:50	1
13C4 PFOA	77		50 - 150				05/18/18 10:26	05/28/18 11:50	1
13C5 PFNA	58		50 - 150				05/18/18 10:26	05/28/18 11:50	1
18O2 PFHxS	54		50 - 150				05/18/18 10:26	05/28/18 11:50	1
13C4 PFOS	48	Q	50 - 150				05/18/18 10:26	05/28/18 11:50	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5100	J1 D	200	60	ng/L		05/18/18 10:26	05/29/18 19:28	100
Perfluorooctanoic acid (PFOA)	6700	J1 D	200	54	ng/L		05/18/18 10:26	05/29/18 19:28	100
Perfluorononanoic acid (PFNA)	190	J J1 D M	200	52	ng/L		05/18/18 10:26	05/29/18 19:28	100
Perfluorobutanesulfonic acid (PFBS)	3900	J1 D	200	46	ng/L		05/18/18 10:26	05/29/18 19:28	100
Perfluorohexanesulfonic acid (PFHxS)	39000	E J1 D	200	38	ng/L		05/18/18 10:26	05/29/18 19:28	100
Perfluorooctanesulfonic acid (PFOS)	63000	J1 E D	400	110	ng/L		05/18/18 10:26	05/29/18 19:28	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	99	M	50 - 150				05/18/18 10:26	05/29/18 19:28	100
13C4-PFHpA	64		50 - 150				05/18/18 10:26	05/29/18 19:28	100
13C4 PFOA	73		50 - 150				05/18/18 10:26	05/29/18 19:28	100
13C5 PFNA	69		50 - 150				05/18/18 10:26	05/29/18 19:28	100
18O2 PFHxS	73		50 - 150				05/18/18 10:26	05/29/18 19:28	100
13C4 PFOS	66		50 - 150				05/18/18 10:26	05/29/18 19:28	100

TestAmerica Sacramento



# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-572-02-PRL05-01**

**Lab Sample ID: 320-39023-6**

**Date Collected: 05/06/18 10:30**

**Matrix: Water**

**Date Received: 05/08/18 09:00**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	25		1.9	0.57	ng/L		05/18/18 10:26	05/28/18 12:13	1
Perfluorooctanoic acid (PFOA)	56		1.9	0.51	ng/L		05/18/18 10:26	05/28/18 12:13	1
Perfluorononanoic acid (PFNA)	3.8		1.9	0.49	ng/L		05/18/18 10:26	05/28/18 12:13	1
Perfluorobutanesulfonic acid (PFBS)	27		1.9	0.43	ng/L		05/18/18 10:26	05/28/18 12:13	1
Perfluorohexanesulfonic acid (PFHxS)	360	E	1.9	0.36	ng/L		05/18/18 10:26	05/28/18 12:13	1
Perfluorooctanesulfonic acid (PFOS)	1100	E M	3.8	1.0	ng/L		05/18/18 10:26	05/28/18 12:13	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	85		50 - 150				05/18/18 10:26	05/28/18 12:13	1
13C4-PFHpA	83		50 - 150				05/18/18 10:26	05/28/18 12:13	1
13C4 PFOA	89		50 - 150				05/18/18 10:26	05/28/18 12:13	1
13C5 PFNA	82		50 - 150				05/18/18 10:26	05/28/18 12:13	1
18O2 PFHxS	81		50 - 150				05/18/18 10:26	05/28/18 12:13	1
13C4 PFOS	74		50 - 150				05/18/18 10:26	05/28/18 12:13	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	23	D	19	5.7	ng/L		05/18/18 10:26	05/29/18 20:07	10
Perfluorooctanoic acid (PFOA)	55	D	19	5.1	ng/L		05/18/18 10:26	05/29/18 20:07	10
Perfluorononanoic acid (PFNA)	14	U M	19	4.9	ng/L		05/18/18 10:26	05/29/18 20:07	10
Perfluorobutanesulfonic acid (PFBS)	27	D	19	4.3	ng/L		05/18/18 10:26	05/29/18 20:07	10
Perfluorohexanesulfonic acid (PFHxS)	360	D	19	3.6	ng/L		05/18/18 10:26	05/29/18 20:07	10
Perfluorooctanesulfonic acid (PFOS)	1100	D	38	10	ng/L		05/18/18 10:26	05/29/18 20:07	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	69	M	50 - 150				05/18/18 10:26	05/29/18 20:07	10
13C4-PFHpA	79		50 - 150				05/18/18 10:26	05/29/18 20:07	10
13C4 PFOA	92		50 - 150				05/18/18 10:26	05/29/18 20:07	10
13C5 PFNA	84		50 - 150				05/18/18 10:26	05/29/18 20:07	10
18O2 PFHxS	77		50 - 150				05/18/18 10:26	05/29/18 20:07	10
13C4 PFOS	75		50 - 150				05/18/18 10:26	05/29/18 20:07	10

**Client Sample ID: MW-KLA06-01-01**

**Lab Sample ID: 320-39023-7**

**Date Collected: 05/06/18 13:15**

**Matrix: Water**

**Date Received: 05/08/18 09:00**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	6100	E	1.9	0.59	ng/L		05/18/18 10:26	05/28/18 12:29	1
Perfluorooctanoic acid (PFOA)	11000	E M	1.9	0.52	ng/L		05/18/18 10:26	05/28/18 12:29	1
Perfluorononanoic acid (PFNA)	500	E M	1.9	0.50	ng/L		05/18/18 10:26	05/28/18 12:29	1
Perfluorobutanesulfonic acid (PFBS)	1600	E	1.9	0.45	ng/L		05/18/18 10:26	05/28/18 12:29	1
Perfluorohexanesulfonic acid (PFHxS)	17000	E M	1.9	0.37	ng/L		05/18/18 10:26	05/28/18 12:29	1
Perfluorooctanesulfonic acid (PFOS)	57000	E	3.9	1.1	ng/L		05/18/18 10:26	05/28/18 12:29	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-KLA06-01-01**

**Date Collected: 05/06/18 13:15**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-7**

**Matrix: Water**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	233	Q	50 - 150	05/18/18 10:26	05/28/18 12:29	1
13C4-PFHpA	37	Q	50 - 150	05/18/18 10:26	05/28/18 12:29	1
13C4 PFOA	52		50 - 150	05/18/18 10:26	05/28/18 12:29	1
13C5 PFNA	50		50 - 150	05/18/18 10:26	05/28/18 12:29	1
18O2 PFHxS	54		50 - 150	05/18/18 10:26	05/28/18 12:29	1
13C4 PFOS	36	Q	50 - 150	05/18/18 10:26	05/28/18 12:29	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5400	D	190	59	ng/L		05/18/18 10:26	05/29/18 20:31	100
Perfluorooctanoic acid (PFOA)	14000	D	190	52	ng/L		05/18/18 10:26	05/29/18 20:31	100
Perfluorononanoic acid (PFNA)	490	D	190	50	ng/L		05/18/18 10:26	05/29/18 20:31	100
Perfluorobutanesulfonic acid (PFBS)	7900	D	190	45	ng/L		05/18/18 10:26	05/29/18 20:31	100
Perfluorohexanesulfonic acid (PFHxS)	68000	E D	190	37	ng/L		05/18/18 10:26	05/29/18 20:31	100
Perfluorooctanesulfonic acid (PFOS)	130000	E D	390	110	ng/L		05/18/18 10:26	05/29/18 20:31	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	145	M	50 - 150				05/18/18 10:26	05/29/18 20:31	100
13C4-PFHpA	53		50 - 150				05/18/18 10:26	05/29/18 20:31	100
13C4 PFOA	58		50 - 150				05/18/18 10:26	05/29/18 20:31	100
13C5 PFNA	51		50 - 150				05/18/18 10:26	05/29/18 20:31	100
18O2 PFHxS	76		50 - 150				05/18/18 10:26	05/29/18 20:31	100
13C4 PFOS	46	Q	50 - 150				05/18/18 10:26	05/29/18 20:31	100

**Client Sample ID: KLA08-SW1-01**

**Date Collected: 05/07/18 08:30**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-8**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.5	J M	1.9	0.58	ng/L		05/21/18 12:01	05/31/18 04:51	1
Perfluorooctanoic acid (PFOA)	1.8	J M	1.9	0.52	ng/L		05/21/18 12:01	05/31/18 04:51	1
Perfluorononanoic acid (PFNA)	0.95	J M	1.9	0.50	ng/L		05/21/18 12:01	05/31/18 04:51	1
Perfluorobutanesulfonic acid (PFBS)	0.96	U M	1.9	0.44	ng/L		05/21/18 12:01	05/31/18 04:51	1
Perfluorohexanesulfonic acid (PFHxS)	3.7	M	1.9	0.36	ng/L		05/21/18 12:01	05/31/18 04:51	1
Perfluorooctanesulfonic acid (PFOS)	28	M	3.8	1.1	ng/L		05/21/18 12:01	05/31/18 04:51	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	76		50 - 150				05/21/18 12:01	05/31/18 04:51	1
13C4-PFHpA	76		50 - 150				05/21/18 12:01	05/31/18 04:51	1
13C4 PFOA	95		50 - 150				05/21/18 12:01	05/31/18 04:51	1
13C5 PFNA	103		50 - 150				05/21/18 12:01	05/31/18 04:51	1
18O2 PFHxS	93		50 - 150				05/21/18 12:01	05/31/18 04:51	1
13C4 PFOS	101		50 - 150				05/21/18 12:01	05/31/18 04:51	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA-01-SB1-01**

**Date Collected: 05/02/18 14:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-9**

**Matrix: Solid**

**Percent Solids: 79.0**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.38		0.38	0.098	ug/Kg	☼	05/14/18 13:10	05/29/18 03:32	1
Perfluorooctanoic acid (PFOA)	3.9		0.38	0.13	ug/Kg	☼	05/14/18 13:10	05/29/18 03:32	1
Perfluorononanoic acid (PFNA)	0.25	U M	0.38	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 03:32	1
Perfluorobutanesulfonic acid (PFBS)	0.31	J	0.50	0.074	ug/Kg	☼	05/14/18 13:10	05/29/18 03:32	1
Perfluorohexanesulfonic acid (PFHxS)	18		0.38	0.078	ug/Kg	☼	05/14/18 13:10	05/29/18 03:32	1
Perfluorooctanesulfonic acid (PFOS)	240	E	1.3	0.30	ug/Kg	☼	05/14/18 13:10	05/29/18 03:32	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	74		50 - 150				05/14/18 13:10	05/29/18 03:32	1
13C4-PFHpA	82		50 - 150				05/14/18 13:10	05/29/18 03:32	1
13C4 PFOA	86		50 - 150				05/14/18 13:10	05/29/18 03:32	1
13C5 PFNA	60		50 - 150				05/14/18 13:10	05/29/18 03:32	1
18O2 PFHxS	78		50 - 150				05/14/18 13:10	05/29/18 03:32	1
13C4 PFOS	48	Q	50 - 150				05/14/18 13:10	05/29/18 03:32	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5.0	U	7.5	2.0	ug/Kg	☼	05/14/18 13:10	05/29/18 11:07	20
Perfluorooctanoic acid (PFOA)	3.9	J D M	7.5	2.5	ug/Kg	☼	05/14/18 13:10	05/29/18 11:07	20
Perfluorononanoic acid (PFNA)	5.0	U	7.5	2.0	ug/Kg	☼	05/14/18 13:10	05/29/18 11:07	20
Perfluorobutanesulfonic acid (PFBS)	4.5	U	10	1.5	ug/Kg	☼	05/14/18 13:10	05/29/18 11:07	20
Perfluorohexanesulfonic acid (PFHxS)	17	D	7.5	1.6	ug/Kg	☼	05/14/18 13:10	05/29/18 11:07	20
Perfluorooctanesulfonic acid (PFOS)	430	D	25	6.0	ug/Kg	☼	05/14/18 13:10	05/29/18 11:07	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	79	M	50 - 150				05/14/18 13:10	05/29/18 11:07	20
13C4-PFHpA	89		50 - 150				05/14/18 13:10	05/29/18 11:07	20
13C4 PFOA	90		50 - 150				05/14/18 13:10	05/29/18 11:07	20
13C5 PFNA	90		50 - 150				05/14/18 13:10	05/29/18 11:07	20
18O2 PFHxS	82		50 - 150				05/14/18 13:10	05/29/18 11:07	20
13C4 PFOS	74		50 - 150				05/14/18 13:10	05/29/18 11:07	20

**Client Sample ID: KLA-01-SB1-02**

**Date Collected: 05/02/18 14:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-10**

**Matrix: Solid**

**Percent Solids: 77.4**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.32	J	0.38	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 03:40	1
Perfluorooctanoic acid (PFOA)	1.0		0.38	0.13	ug/Kg	☼	05/14/18 13:10	05/29/18 03:40	1
Perfluorononanoic acid (PFNA)	0.26	U M	0.38	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 03:40	1
Perfluorobutanesulfonic acid (PFBS)	0.31	J	0.51	0.075	ug/Kg	☼	05/14/18 13:10	05/29/18 03:40	1
Perfluorohexanesulfonic acid (PFHxS)	9.1		0.38	0.079	ug/Kg	☼	05/14/18 13:10	05/29/18 03:40	1
Perfluorooctanesulfonic acid (PFOS)	150	E	1.3	0.31	ug/Kg	☼	05/14/18 13:10	05/29/18 03:40	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA-01-SB1-02**

**Date Collected: 05/02/18 14:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-10**

**Matrix: Solid**

**Percent Solids: 77.4**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	69		50 - 150	05/14/18 13:10	05/29/18 03:40	1
13C4-PFHpa	83		50 - 150	05/14/18 13:10	05/29/18 03:40	1
13C4 PFOA	82		50 - 150	05/14/18 13:10	05/29/18 03:40	1
13C5 PFNA	67		50 - 150	05/14/18 13:10	05/29/18 03:40	1
18O2 PFHxS	75		50 - 150	05/14/18 13:10	05/29/18 03:40	1
13C4 PFOS	54		50 - 150	05/14/18 13:10	05/29/18 03:40	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5.1	U	7.7	2.0	ug/Kg	☼	05/14/18 13:10	05/29/18 11:15	20
Perfluorooctanoic acid (PFOA)	5.1	U M	7.7	2.6	ug/Kg	☼	05/14/18 13:10	05/29/18 11:15	20
Perfluorononanoic acid (PFNA)	5.1	U	7.7	2.1	ug/Kg	☼	05/14/18 13:10	05/29/18 11:15	20
Perfluorobutanesulfonic acid (PFBS)	4.6	U M	10	1.5	ug/Kg	☼	05/14/18 13:10	05/29/18 11:15	20
Perfluorohexanesulfonic acid (PFHxS)	9.1	D	7.7	1.6	ug/Kg	☼	05/14/18 13:10	05/29/18 11:15	20
Perfluorooctanesulfonic acid (PFOS)	210	D	26	6.1	ug/Kg	☼	05/14/18 13:10	05/29/18 11:15	20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	71	M	50 - 150	05/14/18 13:10	05/29/18 11:15	20
13C4-PFHpa	78		50 - 150	05/14/18 13:10	05/29/18 11:15	20
13C4 PFOA	89		50 - 150	05/14/18 13:10	05/29/18 11:15	20
13C5 PFNA	79		50 - 150	05/14/18 13:10	05/29/18 11:15	20
18O2 PFHxS	70		50 - 150	05/14/18 13:10	05/29/18 11:15	20
13C4 PFOS	63		50 - 150	05/14/18 13:10	05/29/18 11:15	20

**Client Sample ID: KLA-01-SB2-01**

**Date Collected: 05/02/18 13:15**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-11**

**Matrix: Solid**

**Percent Solids: 87.9**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.22	U	0.34	0.088	ug/Kg	☼	05/14/18 13:10	05/29/18 03:48	1
Perfluorooctanoic acid (PFOA)	0.30	J	0.34	0.11	ug/Kg	☼	05/14/18 13:10	05/29/18 03:48	1
Perfluorononanoic acid (PFNA)	0.22	U	0.34	0.091	ug/Kg	☼	05/14/18 13:10	05/29/18 03:48	1
Perfluorobutanesulfonic acid (PFBS)	0.072	J	0.45	0.066	ug/Kg	☼	05/14/18 13:10	05/29/18 03:48	1
Perfluorohexanesulfonic acid (PFHxS)	1.5		0.34	0.070	ug/Kg	☼	05/14/18 13:10	05/29/18 03:48	1
Perfluorooctanesulfonic acid (PFOS)	1.7		1.1	0.27	ug/Kg	☼	05/14/18 13:10	05/29/18 03:48	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	68		50 - 150	05/14/18 13:10	05/29/18 03:48	1
13C4-PFHpa	84		50 - 150	05/14/18 13:10	05/29/18 03:48	1
13C4 PFOA	88		50 - 150	05/14/18 13:10	05/29/18 03:48	1
13C5 PFNA	92		50 - 150	05/14/18 13:10	05/29/18 03:48	1
18O2 PFHxS	71		50 - 150	05/14/18 13:10	05/29/18 03:48	1
13C4 PFOS	72		50 - 150	05/14/18 13:10	05/29/18 03:48	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA-01-SB2-02**

**Date Collected: 05/02/18 13:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-12**

**Matrix: Solid**

**Percent Solids: 75.7**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.14	J	0.39	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 03:56	1
Perfluorooctanoic acid (PFOA)	0.39		0.39	0.13	ug/Kg	☼	05/14/18 13:10	05/29/18 03:56	1
Perfluorononanoic acid (PFNA)	0.26	U M	0.39	0.11	ug/Kg	☼	05/14/18 13:10	05/29/18 03:56	1
Perfluorobutanesulfonic acid (PFBS)	0.15	J	0.52	0.077	ug/Kg	☼	05/14/18 13:10	05/29/18 03:56	1
Perfluorohexanesulfonic acid (PFHxS)	2.4		0.39	0.081	ug/Kg	☼	05/14/18 13:10	05/29/18 03:56	1
Perfluorooctanesulfonic acid (PFOS)	3.2	M	1.3	0.31	ug/Kg	☼	05/14/18 13:10	05/29/18 03:56	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	71		50 - 150				05/14/18 13:10	05/29/18 03:56	1
13C4-PFHpA	83		50 - 150				05/14/18 13:10	05/29/18 03:56	1
13C4 PFOA	84		50 - 150				05/14/18 13:10	05/29/18 03:56	1
13C5 PFNA	87		50 - 150				05/14/18 13:10	05/29/18 03:56	1
18O2 PFHxS	76		50 - 150				05/14/18 13:10	05/29/18 03:56	1
13C4 PFOS	74		50 - 150				05/14/18 13:10	05/29/18 03:56	1

**Client Sample ID: KLA-01-SB3-01**

**Date Collected: 05/02/18 14:25**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-13**

**Matrix: Solid**

**Percent Solids: 77.4**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.25	U	0.38	0.099	ug/Kg	☼	05/14/18 13:10	05/29/18 04:04	1
Perfluorooctanoic acid (PFOA)	0.22	J	0.38	0.13	ug/Kg	☼	05/14/18 13:10	05/29/18 04:04	1
Perfluorononanoic acid (PFNA)	0.25	U M	0.38	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 04:04	1
Perfluorobutanesulfonic acid (PFBS)	0.13	J	0.51	0.075	ug/Kg	☼	05/14/18 13:10	05/29/18 04:04	1
Perfluorohexanesulfonic acid (PFHxS)	1.3		0.38	0.079	ug/Kg	☼	05/14/18 13:10	05/29/18 04:04	1
Perfluorooctanesulfonic acid (PFOS)	10		1.3	0.30	ug/Kg	☼	05/14/18 13:10	05/29/18 04:04	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	67		50 - 150				05/14/18 13:10	05/29/18 04:04	1
13C4-PFHpA	82		50 - 150				05/14/18 13:10	05/29/18 04:04	1
13C4 PFOA	84		50 - 150				05/14/18 13:10	05/29/18 04:04	1
13C5 PFNA	84		50 - 150				05/14/18 13:10	05/29/18 04:04	1
18O2 PFHxS	73		50 - 150				05/14/18 13:10	05/29/18 04:04	1
13C4 PFOS	68		50 - 150				05/14/18 13:10	05/29/18 04:04	1

**Client Sample ID: KLA-01-SB3-02**

**Date Collected: 05/02/18 14:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-14**

**Matrix: Solid**

**Percent Solids: 78.1**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.25	U	0.38	0.099	ug/Kg	☼	05/14/18 13:10	05/29/18 04:12	1
Perfluorooctanoic acid (PFOA)	0.25	U	0.38	0.13	ug/Kg	☼	05/14/18 13:10	05/29/18 04:12	1
Perfluorononanoic acid (PFNA)	0.25	U	0.38	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 04:12	1
Perfluorobutanesulfonic acid (PFBS)	0.23	U	0.51	0.075	ug/Kg	☼	05/14/18 13:10	05/29/18 04:12	1

TestAmerica Sacramento



# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA-01-SB3-02**

**Date Collected: 05/02/18 14:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-14**

**Matrix: Solid**

**Percent Solids: 78.1**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	0.32	J	0.38	0.078	ug/Kg	☼	05/14/18 13:10	05/29/18 04:12	1
Perfluorooctanesulfonic acid (PFOS)	1.1	J	1.3	0.30	ug/Kg	☼	05/14/18 13:10	05/29/18 04:12	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	67		50 - 150				05/14/18 13:10	05/29/18 04:12	1
13C4-PFHpA	80		50 - 150				05/14/18 13:10	05/29/18 04:12	1
13C4 PFOA	80		50 - 150				05/14/18 13:10	05/29/18 04:12	1
13C5 PFNA	82		50 - 150				05/14/18 13:10	05/29/18 04:12	1
18O2 PFHxS	70		50 - 150				05/14/18 13:10	05/29/18 04:12	1
13C4 PFOS	64		50 - 150				05/14/18 13:10	05/29/18 04:12	1

**Client Sample ID: KLA02-SB1-01**

**Date Collected: 05/04/18 13:40**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-15**

**Matrix: Solid**

**Percent Solids: 77.4**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.16	J	0.39	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 07:43	1
Perfluorooctanoic acid (PFOA)	0.46	M	0.39	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 07:43	1
Perfluorononanoic acid (PFNA)	0.26	U	0.39	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 07:43	1
Perfluorobutanesulfonic acid (PFBS)	0.25	J	0.52	0.077	ug/Kg	☼	05/14/18 14:03	05/29/18 07:43	1
Perfluorohexanesulfonic acid (PFHxS)	2.6		0.39	0.081	ug/Kg	☼	05/14/18 14:03	05/29/18 07:43	1
Perfluorooctanesulfonic acid (PFOS)	7.6	J1	1.3	0.31	ug/Kg	☼	05/14/18 14:03	05/29/18 07:43	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	81		50 - 150				05/14/18 14:03	05/29/18 07:43	1
13C4-PFHpA	93		50 - 150				05/14/18 14:03	05/29/18 07:43	1
13C4 PFOA	93		50 - 150				05/14/18 14:03	05/29/18 07:43	1
13C5 PFNA	100		50 - 150				05/14/18 14:03	05/29/18 07:43	1
18O2 PFHxS	88		50 - 150				05/14/18 14:03	05/29/18 07:43	1
13C4 PFOS	86		50 - 150				05/14/18 14:03	05/29/18 07:43	1

**Client Sample ID: KLA02-SB1-02**

**Date Collected: 05/04/18 13:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-16**

**Matrix: Solid**

**Percent Solids: 80.8**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.18	J	0.36	0.095	ug/Kg	☼	05/14/18 14:03	05/29/18 08:07	1
Perfluorooctanoic acid (PFOA)	0.28	J M	0.36	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 08:07	1
Perfluorononanoic acid (PFNA)	0.24	U M	0.36	0.098	ug/Kg	☼	05/14/18 14:03	05/29/18 08:07	1
Perfluorobutanesulfonic acid (PFBS)	0.22	J	0.49	0.072	ug/Kg	☼	05/14/18 14:03	05/29/18 08:07	1
Perfluorohexanesulfonic acid (PFHxS)	1.6		0.36	0.075	ug/Kg	☼	05/14/18 14:03	05/29/18 08:07	1
Perfluorooctanesulfonic acid (PFOS)	6.1		1.2	0.29	ug/Kg	☼	05/14/18 14:03	05/29/18 08:07	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA02-SB1-02**

**Date Collected: 05/04/18 13:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-16**

**Matrix: Solid**

**Percent Solids: 80.8**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	71		50 - 150	05/14/18 14:03	05/29/18 08:07	1
13C4-PFHpA	81		50 - 150	05/14/18 14:03	05/29/18 08:07	1
13C4 PFOA	84		50 - 150	05/14/18 14:03	05/29/18 08:07	1
13C5 PFNA	85		50 - 150	05/14/18 14:03	05/29/18 08:07	1
18O2 PFHxS	77		50 - 150	05/14/18 14:03	05/29/18 08:07	1
13C4 PFOS	76		50 - 150	05/14/18 14:03	05/29/18 08:07	1

**Client Sample ID: KLA02-SB2-01**

**Date Collected: 05/04/18 13:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-17**

**Matrix: Solid**

**Percent Solids: 79.0**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.1		0.37	0.097	ug/Kg	☼	05/14/18 14:03	05/29/18 08:14	1
Perfluorooctanoic acid (PFOA)	2.2		0.37	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 08:14	1
Perfluorononanoic acid (PFNA)	0.38		0.37	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 08:14	1
Perfluorobutanesulfonic acid (PFBS)	5.1		0.50	0.074	ug/Kg	☼	05/14/18 14:03	05/29/18 08:14	1
Perfluorohexanesulfonic acid (PFHxS)	21		0.37	0.077	ug/Kg	☼	05/14/18 14:03	05/29/18 08:14	1
Perfluorooctanesulfonic acid (PFOS)	270	E	1.2	0.30	ug/Kg	☼	05/14/18 14:03	05/29/18 08:14	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	78		50 - 150				05/14/18 14:03	05/29/18 08:14	1
13C4-PFHpA	85		50 - 150				05/14/18 14:03	05/29/18 08:14	1
13C4 PFOA	94		50 - 150				05/14/18 14:03	05/29/18 08:14	1
13C5 PFNA	66		50 - 150				05/14/18 14:03	05/29/18 08:14	1
18O2 PFHxS	78		50 - 150				05/14/18 14:03	05/29/18 08:14	1
13C4 PFOS	55		50 - 150				05/14/18 14:03	05/29/18 08:14	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	25	U	37	9.7	ug/Kg	☼	05/14/18 14:03	05/29/18 15:02	100
Perfluorooctanoic acid (PFOA)	25	U	37	12	ug/Kg	☼	05/14/18 14:03	05/29/18 15:02	100
Perfluorononanoic acid (PFNA)	25	U	37	10	ug/Kg	☼	05/14/18 14:03	05/29/18 15:02	100
Perfluorobutanesulfonic acid (PFBS)	22	U	50	7.4	ug/Kg	☼	05/14/18 14:03	05/29/18 15:02	100
Perfluorohexanesulfonic acid (PFHxS)	21	J D	37	7.7	ug/Kg	☼	05/14/18 14:03	05/29/18 15:02	100
Perfluorooctanesulfonic acid (PFOS)	390	D	120	30	ug/Kg	☼	05/14/18 14:03	05/29/18 15:02	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	94	M	50 - 150				05/14/18 14:03	05/29/18 15:02	100
13C4-PFHpA	72		50 - 150				05/14/18 14:03	05/29/18 15:02	100
13C4 PFOA	87		50 - 150				05/14/18 14:03	05/29/18 15:02	100
13C5 PFNA	84		50 - 150				05/14/18 14:03	05/29/18 15:02	100
18O2 PFHxS	66		50 - 150				05/14/18 14:03	05/29/18 15:02	100
13C4 PFOS	68		50 - 150				05/14/18 14:03	05/29/18 15:02	100

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA02-SB2-02**

**Lab Sample ID: 320-39023-18**

**Date Collected: 05/04/18 13:25**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 59.2**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	6.0		0.51	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 08:22	1
Perfluorooctanoic acid (PFOA)	18		0.51	0.17	ug/Kg	☼	05/14/18 14:03	05/29/18 08:22	1
Perfluorononanoic acid (PFNA)	0.30	J	0.51	0.14	ug/Kg	☼	05/14/18 14:03	05/29/18 08:22	1
Perfluorobutanesulfonic acid (PFBS)	26		0.68	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 08:22	1
Perfluorohexanesulfonic acid (PFHxS)	110	E	0.51	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 08:22	1
Perfluorooctanesulfonic acid (PFOS)	410	E	1.7	0.41	ug/Kg	☼	05/14/18 14:03	05/29/18 08:22	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	82		50 - 150				05/14/18 14:03	05/29/18 08:22	1
13C4-PFHpA	78		50 - 150				05/14/18 14:03	05/29/18 08:22	1
13C4 PFOA	89		50 - 150				05/14/18 14:03	05/29/18 08:22	1
13C5 PFNA	71		50 - 150				05/14/18 14:03	05/29/18 08:22	1
18O2 PFHxS	72		50 - 150				05/14/18 14:03	05/29/18 08:22	1
13C4 PFOS	60		50 - 150				05/14/18 14:03	05/29/18 08:22	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	6.4	J D	10	2.6	ug/Kg	☼	05/14/18 14:03	05/29/18 17:07	20
Perfluorooctanoic acid (PFOA)	17	D	10	3.4	ug/Kg	☼	05/14/18 14:03	05/29/18 17:07	20
Perfluorononanoic acid (PFNA)	6.8	U	10	2.7	ug/Kg	☼	05/14/18 14:03	05/29/18 17:07	20
Perfluorobutanesulfonic acid (PFBS)	30	D	14	2.0	ug/Kg	☼	05/14/18 14:03	05/29/18 17:07	20
Perfluorohexanesulfonic acid (PFHxS)	130	D	10	2.1	ug/Kg	☼	05/14/18 14:03	05/29/18 17:07	20
Perfluorooctanesulfonic acid (PFOS)	570	D M	34	8.1	ug/Kg	☼	05/14/18 14:03	05/29/18 17:07	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	71		50 - 150				05/14/18 14:03	05/29/18 17:07	20
13C4-PFHpA	78		50 - 150				05/14/18 14:03	05/29/18 17:07	20
13C4 PFOA	91		50 - 150				05/14/18 14:03	05/29/18 17:07	20
13C5 PFNA	86		50 - 150				05/14/18 14:03	05/29/18 17:07	20
18O2 PFHxS	82		50 - 150				05/14/18 14:03	05/29/18 17:07	20
13C4 PFOS	71		50 - 150				05/14/18 14:03	05/29/18 17:07	20

**Client Sample ID: KLA02-SB3-01**

**Lab Sample ID: 320-39023-19**

**Date Collected: 05/04/18 13:55**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 83.8**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.47		0.36	0.094	ug/Kg	☼	05/14/18 14:03	05/29/18 08:30	1
Perfluorooctanoic acid (PFOA)	0.45		0.36	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 08:30	1
Perfluorononanoic acid (PFNA)	0.40		0.36	0.098	ug/Kg	☼	05/14/18 14:03	05/29/18 08:30	1
Perfluorobutanesulfonic acid (PFBS)	0.50		0.48	0.071	ug/Kg	☼	05/14/18 14:03	05/29/18 08:30	1
Perfluorohexanesulfonic acid (PFHxS)	5.4		0.36	0.075	ug/Kg	☼	05/14/18 14:03	05/29/18 08:30	1
Perfluorooctanesulfonic acid (PFOS)	110	E M	1.2	0.29	ug/Kg	☼	05/14/18 14:03	05/29/18 08:30	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA02-SB3-01**

**Date Collected: 05/04/18 13:55**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-19**

**Matrix: Solid**

**Percent Solids: 83.8**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	78		50 - 150	05/14/18 14:03	05/29/18 08:30	1
13C4-PFHpA	86		50 - 150	05/14/18 14:03	05/29/18 08:30	1
13C4 PFOA	92		50 - 150	05/14/18 14:03	05/29/18 08:30	1
13C5 PFNA	85		50 - 150	05/14/18 14:03	05/29/18 08:30	1
18O2 PFHxS	82		50 - 150	05/14/18 14:03	05/29/18 08:30	1
13C4 PFOS	68		50 - 150	05/14/18 14:03	05/29/18 08:30	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	4.8	U	7.2	1.9	ug/Kg	☼	05/14/18 14:03	05/29/18 14:30	20
Perfluorooctanoic acid (PFOA)	4.8	U	7.2	2.4	ug/Kg	☼	05/14/18 14:03	05/29/18 14:30	20
Perfluorononanoic acid (PFNA)	4.8	U	7.2	2.0	ug/Kg	☼	05/14/18 14:03	05/29/18 14:30	20
Perfluorobutanesulfonic acid (PFBS)	4.3	U	9.6	1.4	ug/Kg	☼	05/14/18 14:03	05/29/18 14:30	20
Perfluorohexanesulfonic acid (PFHxS)	5.7	J D	7.2	1.5	ug/Kg	☼	05/14/18 14:03	05/29/18 14:30	20
Perfluorooctanesulfonic acid (PFOS)	140	D	24	5.8	ug/Kg	☼	05/14/18 14:03	05/29/18 14:30	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	77	M	50 - 150				05/14/18 14:03	05/29/18 14:30	20
13C4-PFHpA	84		50 - 150				05/14/18 14:03	05/29/18 14:30	20
13C4 PFOA	91		50 - 150				05/14/18 14:03	05/29/18 14:30	20
13C5 PFNA	100		50 - 150				05/14/18 14:03	05/29/18 14:30	20
18O2 PFHxS	75		50 - 150				05/14/18 14:03	05/29/18 14:30	20
13C4 PFOS	74		50 - 150				05/14/18 14:03	05/29/18 14:30	20

**Client Sample ID: KLA02-SB3-02**

**Date Collected: 05/04/18 14:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-20**

**Matrix: Solid**

**Percent Solids: 72.4**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.81		0.41	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 08:38	1
Perfluorooctanoic acid (PFOA)	1.0		0.41	0.14	ug/Kg	☼	05/14/18 14:03	05/29/18 08:38	1
Perfluorononanoic acid (PFNA)	0.12	J M	0.41	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 08:38	1
Perfluorobutanesulfonic acid (PFBS)	1.8		0.55	0.081	ug/Kg	☼	05/14/18 14:03	05/29/18 08:38	1
Perfluorohexanesulfonic acid (PFHxS)	9.4		0.41	0.086	ug/Kg	☼	05/14/18 14:03	05/29/18 08:38	1
Perfluorooctanesulfonic acid (PFOS)	21	M	1.4	0.33	ug/Kg	☼	05/14/18 14:03	05/29/18 08:38	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	75		50 - 150				05/14/18 14:03	05/29/18 08:38	1
13C4-PFHpA	80		50 - 150				05/14/18 14:03	05/29/18 08:38	1
13C4 PFOA	90		50 - 150				05/14/18 14:03	05/29/18 08:38	1
13C5 PFNA	92		50 - 150				05/14/18 14:03	05/29/18 08:38	1
18O2 PFHxS	80		50 - 150				05/14/18 14:03	05/29/18 08:38	1
13C4 PFOS	76		50 - 150				05/14/18 14:03	05/29/18 08:38	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA03-SB1-01**

**Date Collected: 05/01/18 09:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-21**

**Matrix: Solid**

**Percent Solids: 77.7**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.26	U	0.39	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 04:19	1
Perfluorooctanoic acid (PFOA)	0.26	U M	0.39	0.13	ug/Kg	☼	05/14/18 13:10	05/29/18 04:19	1
Perfluorononanoic acid (PFNA)	0.26	U	0.39	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 04:19	1
Perfluorobutanesulfonic acid (PFBS)	0.082	J	0.52	0.076	ug/Kg	☼	05/14/18 13:10	05/29/18 04:19	1
Perfluorohexanesulfonic acid (PFHxS)	0.99		0.39	0.080	ug/Kg	☼	05/14/18 13:10	05/29/18 04:19	1
Perfluorooctanesulfonic acid (PFOS)	3.0		1.3	0.31	ug/Kg	☼	05/14/18 13:10	05/29/18 04:19	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	68		50 - 150				05/14/18 13:10	05/29/18 04:19	1
13C4-PFHpA	83		50 - 150				05/14/18 13:10	05/29/18 04:19	1
13C4 PFOA	85		50 - 150				05/14/18 13:10	05/29/18 04:19	1
13C5 PFNA	83		50 - 150				05/14/18 13:10	05/29/18 04:19	1
18O2 PFHxS	71		50 - 150				05/14/18 13:10	05/29/18 04:19	1
13C4 PFOS	69		50 - 150				05/14/18 13:10	05/29/18 04:19	1

**Client Sample ID: KLA03-SB1-02**

**Date Collected: 05/01/18 09:05**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-22**

**Matrix: Solid**

**Percent Solids: 74.7**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.26	U	0.40	0.10	ug/Kg	☼	05/14/18 13:10	05/29/18 04:27	1
Perfluorooctanoic acid (PFOA)	0.22	J M	0.40	0.13	ug/Kg	☼	05/14/18 13:10	05/29/18 04:27	1
Perfluorononanoic acid (PFNA)	0.26	U	0.40	0.11	ug/Kg	☼	05/14/18 13:10	05/29/18 04:27	1
Perfluorobutanesulfonic acid (PFBS)	0.21	J	0.53	0.078	ug/Kg	☼	05/14/18 13:10	05/29/18 04:27	1
Perfluorohexanesulfonic acid (PFHxS)	2.4		0.40	0.082	ug/Kg	☼	05/14/18 13:10	05/29/18 04:27	1
Perfluorooctanesulfonic acid (PFOS)	17		1.3	0.32	ug/Kg	☼	05/14/18 13:10	05/29/18 04:27	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	70		50 - 150				05/14/18 13:10	05/29/18 04:27	1
13C4-PFHpA	83		50 - 150				05/14/18 13:10	05/29/18 04:27	1
13C4 PFOA	87		50 - 150				05/14/18 13:10	05/29/18 04:27	1
13C5 PFNA	91		50 - 150				05/14/18 13:10	05/29/18 04:27	1
18O2 PFHxS	74		50 - 150				05/14/18 13:10	05/29/18 04:27	1
13C4 PFOS	71		50 - 150				05/14/18 13:10	05/29/18 04:27	1

**Client Sample ID: KLA03-SB2-01**

**Date Collected: 05/02/18 12:15**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-23**

**Matrix: Solid**

**Percent Solids: 81.0**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.25	U	0.37	0.096	ug/Kg	☼	05/14/18 13:10	06/06/18 22:47	1
Perfluorooctanoic acid (PFOA)	0.15	J	0.37	0.12	ug/Kg	☼	05/14/18 13:10	06/06/18 22:47	1
Perfluorononanoic acid (PFNA)	0.25	U M	0.37	0.099	ug/Kg	☼	05/14/18 13:10	06/06/18 22:47	1
Perfluorobutanesulfonic acid (PFBS)	0.10	J	0.49	0.072	ug/Kg	☼	05/14/18 13:10	06/06/18 22:47	1

TestAmerica Sacramento



# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA03-SB2-01**

**Date Collected: 05/02/18 12:15**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-23**

**Matrix: Solid**

**Percent Solids: 81.0**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	0.71		0.37	0.076	ug/Kg	☼	05/14/18 13:10	06/06/18 22:47	1
Perfluorooctanesulfonic acid (PFOS)	3.4		1.2	0.29	ug/Kg	☼	05/14/18 13:10	06/06/18 22:47	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	69		50 - 150				05/14/18 13:10	06/06/18 22:47	1
13C4-PFHpA	83		50 - 150				05/14/18 13:10	06/06/18 22:47	1
13C4 PFOA	83		50 - 150				05/14/18 13:10	06/06/18 22:47	1
13C5 PFNA	81		50 - 150				05/14/18 13:10	06/06/18 22:47	1
18O2 PFHxS	73		50 - 150				05/14/18 13:10	06/06/18 22:47	1
13C4 PFOS	72		50 - 150				05/14/18 13:10	06/06/18 22:47	1

**Client Sample ID: KLA03-SB2-02**

**Date Collected: 05/02/18 12:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-24**

**Matrix: Solid**

**Percent Solids: 77.2**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.26	U	0.38	0.10	ug/Kg	☼	05/14/18 13:10	06/06/18 22:55	1
Perfluorooctanoic acid (PFOA)	0.15	J	0.38	0.13	ug/Kg	☼	05/14/18 13:10	06/06/18 22:55	1
Perfluorononanoic acid (PFNA)	0.26	U	0.38	0.10	ug/Kg	☼	05/14/18 13:10	06/06/18 22:55	1
Perfluorobutanesulfonic acid (PFBS)	0.15	J	0.51	0.075	ug/Kg	☼	05/14/18 13:10	06/06/18 22:55	1
Perfluorohexanesulfonic acid (PFHxS)	1.1		0.38	0.079	ug/Kg	☼	05/14/18 13:10	06/06/18 22:55	1
Perfluorooctanesulfonic acid (PFOS)	4.9	M	1.3	0.31	ug/Kg	☼	05/14/18 13:10	06/06/18 22:55	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	68		50 - 150				05/14/18 13:10	06/06/18 22:55	1
13C4-PFHpA	83		50 - 150				05/14/18 13:10	06/06/18 22:55	1
13C4 PFOA	82		50 - 150				05/14/18 13:10	06/06/18 22:55	1
13C5 PFNA	78		50 - 150				05/14/18 13:10	06/06/18 22:55	1
18O2 PFHxS	75		50 - 150				05/14/18 13:10	06/06/18 22:55	1
13C4 PFOS	70		50 - 150				05/14/18 13:10	06/06/18 22:55	1

**Client Sample ID: KLA03-SB3-01**

**Date Collected: 05/01/18 08:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-25**

**Matrix: Solid**

**Percent Solids: 74.9**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.36	J	0.41	0.11	ug/Kg	☼	05/14/18 13:10	06/06/18 23:03	1
Perfluorooctanoic acid (PFOA)	0.37	J	0.41	0.14	ug/Kg	☼	05/14/18 13:10	06/06/18 23:03	1
Perfluorononanoic acid (PFNA)	0.27	U M	0.41	0.11	ug/Kg	☼	05/14/18 13:10	06/06/18 23:03	1
Perfluorobutanesulfonic acid (PFBS)	0.21	J	0.54	0.080	ug/Kg	☼	05/14/18 13:10	06/06/18 23:03	1
Perfluorohexanesulfonic acid (PFHxS)	2.7		0.41	0.084	ug/Kg	☼	05/14/18 13:10	06/06/18 23:03	1
Perfluorooctanesulfonic acid (PFOS)	3.2		1.4	0.32	ug/Kg	☼	05/14/18 13:10	06/06/18 23:03	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA03-SB3-01**

**Date Collected: 05/01/18 08:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-25**

**Matrix: Solid**

**Percent Solids: 74.9**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	78		50 - 150	05/14/18 13:10	06/06/18 23:03	1
13C4-PFHpA	85		50 - 150	05/14/18 13:10	06/06/18 23:03	1
13C4 PFOA	85		50 - 150	05/14/18 13:10	06/06/18 23:03	1
13C5 PFNA	87		50 - 150	05/14/18 13:10	06/06/18 23:03	1
18O2 PFHxS	83		50 - 150	05/14/18 13:10	06/06/18 23:03	1
13C4 PFOS	79		50 - 150	05/14/18 13:10	06/06/18 23:03	1

**Client Sample ID: KLA03-SB3-02**

**Date Collected: 05/01/18 08:50**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-26**

**Matrix: Solid**

**Percent Solids: 73.6**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.59		0.41	0.11	ug/Kg	☼	05/14/18 13:10	06/06/18 23:10	1
Perfluorooctanoic acid (PFOA)	1.3		0.41	0.14	ug/Kg	☼	05/14/18 13:10	06/06/18 23:10	1
Perfluorononanoic acid (PFNA)	0.27	U	0.41	0.11	ug/Kg	☼	05/14/18 13:10	06/06/18 23:10	1
Perfluorobutanesulfonic acid (PFBS)	0.75		0.54	0.080	ug/Kg	☼	05/14/18 13:10	06/06/18 23:10	1
Perfluorohexanesulfonic acid (PFHxS)	12		0.41	0.084	ug/Kg	☼	05/14/18 13:10	06/06/18 23:10	1
Perfluorooctanesulfonic acid (PFOS)	14	M	1.4	0.32	ug/Kg	☼	05/14/18 13:10	06/06/18 23:10	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	77		50 - 150				05/14/18 13:10	06/06/18 23:10	1
13C4-PFHpA	85		50 - 150				05/14/18 13:10	06/06/18 23:10	1
13C4 PFOA	84		50 - 150				05/14/18 13:10	06/06/18 23:10	1
13C5 PFNA	83		50 - 150				05/14/18 13:10	06/06/18 23:10	1
18O2 PFHxS	79		50 - 150				05/14/18 13:10	06/06/18 23:10	1
13C4 PFOS	76		50 - 150				05/14/18 13:10	06/06/18 23:10	1

**Client Sample ID: KLA04-SB1-01**

**Date Collected: 05/04/18 08:35**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-27**

**Matrix: Solid**

**Percent Solids: 72.6**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.66		0.42	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 08:54	1
Perfluorooctanoic acid (PFOA)	3.2		0.42	0.14	ug/Kg	☼	05/14/18 14:03	05/29/18 08:54	1
Perfluorononanoic acid (PFNA)	0.16	J M	0.42	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 08:54	1
Perfluorobutanesulfonic acid (PFBS)	0.45	J	0.56	0.082	ug/Kg	☼	05/14/18 14:03	05/29/18 08:54	1
Perfluorohexanesulfonic acid (PFHxS)	24		0.42	0.086	ug/Kg	☼	05/14/18 14:03	05/29/18 08:54	1
Perfluorooctanesulfonic acid (PFOS)	930	E	1.4	0.33	ug/Kg	☼	05/14/18 14:03	05/29/18 08:54	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	87		50 - 150				05/14/18 14:03	05/29/18 08:54	1
13C4-PFHpA	98		50 - 150				05/14/18 14:03	05/29/18 08:54	1
13C4 PFOA	88		50 - 150				05/14/18 14:03	05/29/18 08:54	1
13C5 PFNA	37	Q	50 - 150				05/14/18 14:03	05/29/18 08:54	1
18O2 PFHxS	87		50 - 150				05/14/18 14:03	05/29/18 08:54	1
13C4 PFOS	30	Q	50 - 150				05/14/18 14:03	05/29/18 08:54	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	28	U	42	11	ug/Kg	☼	05/14/18 14:03	05/29/18 15:33	100
Perfluorooctanoic acid (PFOA)	28	U M	42	14	ug/Kg	☼	05/14/18 14:03	05/29/18 15:33	100
Perfluorononanoic acid (PFNA)	28	U	42	11	ug/Kg	☼	05/14/18 14:03	05/29/18 15:33	100
Perfluorobutanesulfonic acid (PFBS)	25	U	56	8.2	ug/Kg	☼	05/14/18 14:03	05/29/18 15:33	100
Perfluorohexanesulfonic acid (PFHxS)	23	J D	42	8.6	ug/Kg	☼	05/14/18 14:03	05/29/18 15:33	100
Perfluorooctanesulfonic acid (PFOS)	2200	D	140	33	ug/Kg	☼	05/14/18 14:03	05/29/18 15:33	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	99	M	50 - 150				05/14/18 14:03	05/29/18 15:33	100
13C4-PFHpA	77		50 - 150				05/14/18 14:03	05/29/18 15:33	100
13C4 PFOA	93		50 - 150				05/14/18 14:03	05/29/18 15:33	100
13C5 PFNA	79		50 - 150				05/14/18 14:03	05/29/18 15:33	100
18O2 PFHxS	67		50 - 150				05/14/18 14:03	05/29/18 15:33	100
13C4 PFOS	70		50 - 150				05/14/18 14:03	05/29/18 15:33	100

Client Sample ID: KLA04-SB1-02

Date Collected: 05/04/18 08:40

Date Received: 05/09/18 09:20

Lab Sample ID: 320-39023-28

Matrix: Solid

Percent Solids: 77.2

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	4.4		0.39	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 09:02	1
Perfluorooctanoic acid (PFOA)	19		0.39	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 09:02	1
Perfluorononanoic acid (PFNA)	0.60	M	0.39	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 09:02	1
Perfluorobutanesulfonic acid (PFBS)	14		0.52	0.077	ug/Kg	☼	05/14/18 14:03	05/29/18 09:02	1
Perfluorohexanesulfonic acid (PFHxS)	130	E	0.39	0.081	ug/Kg	☼	05/14/18 14:03	05/29/18 09:02	1
Perfluorooctanesulfonic acid (PFOS)	1800	E M	1.3	0.31	ug/Kg	☼	05/14/18 14:03	05/29/18 09:02	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	95		50 - 150				05/14/18 14:03	05/29/18 09:02	1
13C4-PFHpA	85		50 - 150				05/14/18 14:03	05/29/18 09:02	1
13C4 PFOA	84		50 - 150				05/14/18 14:03	05/29/18 09:02	1
13C5 PFNA	34	Q	50 - 150				05/14/18 14:03	05/29/18 09:02	1
18O2 PFHxS	78		50 - 150				05/14/18 14:03	05/29/18 09:02	1
13C4 PFOS	26	Q	50 - 150				05/14/18 14:03	05/29/18 09:02	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	4.0	J D	7.8	2.0	ug/Kg	☼	05/14/18 14:03	05/29/18 17:15	20
Perfluorooctanoic acid (PFOA)	19	D	7.8	2.6	ug/Kg	☼	05/14/18 14:03	05/29/18 17:15	20
Perfluorononanoic acid (PFNA)	5.2	U	7.8	2.1	ug/Kg	☼	05/14/18 14:03	05/29/18 17:15	20
Perfluorobutanesulfonic acid (PFBS)	15	D	10	1.5	ug/Kg	☼	05/14/18 14:03	05/29/18 17:15	20
Perfluorohexanesulfonic acid (PFHxS)	190	D	7.8	1.6	ug/Kg	☼	05/14/18 14:03	05/29/18 17:15	20
Perfluorooctanesulfonic acid (PFOS)	2900	E D	26	6.3	ug/Kg	☼	05/14/18 14:03	05/29/18 17:15	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	70	M	50 - 150				05/14/18 14:03	05/29/18 17:15	20
13C4-PFHpA	84		50 - 150				05/14/18 14:03	05/29/18 17:15	20
13C4 PFOA	84		50 - 150				05/14/18 14:03	05/29/18 17:15	20
13C5 PFNA	76		50 - 150				05/14/18 14:03	05/29/18 17:15	20

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA04-SB1-02**

**Date Collected: 05/04/18 08:40**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-28**

**Matrix: Solid**

**Percent Solids: 77.2**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	71		50 - 150	05/14/18 14:03	05/29/18 17:15	20
13C4 PFOS	59		50 - 150	05/14/18 14:03	05/29/18 17:15	20

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	26	U	39	10	ug/Kg	☼	05/14/18 14:03	05/29/18 15:41	100
Perfluorooctanoic acid (PFOA)	17	J D	39	13	ug/Kg	☼	05/14/18 14:03	05/29/18 15:41	100
Perfluorononanoic acid (PFNA)	26	U	39	11	ug/Kg	☼	05/14/18 14:03	05/29/18 15:41	100
Perfluorobutanesulfonic acid (PFBS)	10	J D	52	7.7	ug/Kg	☼	05/14/18 14:03	05/29/18 15:41	100
Perfluorohexanesulfonic acid (PFHxS)	160	D	39	8.1	ug/Kg	☼	05/14/18 14:03	05/29/18 15:41	100
Perfluorooctanesulfonic acid (PFOS)	3600	E D M	130	31	ug/Kg	☼	05/14/18 14:03	05/29/18 15:41	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	96	M	50 - 150				05/14/18 14:03	05/29/18 15:41	100
13C4-PFHpA	80		50 - 150				05/14/18 14:03	05/29/18 15:41	100
13C4 PFOA	95		50 - 150				05/14/18 14:03	05/29/18 15:41	100
13C5 PFNA	73		50 - 150				05/14/18 14:03	05/29/18 15:41	100
18O2 PFHxS	76		50 - 150				05/14/18 14:03	05/29/18 15:41	100
13C4 PFOS	63		50 - 150				05/14/18 14:03	05/29/18 15:41	100

**Client Sample ID: KLA04-SB2-01**

**Date Collected: 05/04/18 08:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-29**

**Matrix: Solid**

**Percent Solids: 78.9**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	14		0.38	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 09:09	1
Perfluorooctanoic acid (PFOA)	27	E	0.38	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 09:09	1
Perfluorononanoic acid (PFNA)	1.6	M	0.38	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 09:09	1
Perfluorobutanesulfonic acid (PFBS)	24	E	0.51	0.075	ug/Kg	☼	05/14/18 14:03	05/29/18 09:09	1
Perfluorohexanesulfonic acid (PFHxS)	140	E	0.38	0.079	ug/Kg	☼	05/14/18 14:03	05/29/18 09:09	1
Perfluorooctanesulfonic acid (PFOS)	2600	E	1.3	0.31	ug/Kg	☼	05/14/18 14:03	05/29/18 09:09	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	96		50 - 150				05/14/18 14:03	05/29/18 09:09	1
13C4-PFHpA	88		50 - 150				05/14/18 14:03	05/29/18 09:09	1
13C4 PFOA	83		50 - 150				05/14/18 14:03	05/29/18 09:09	1
13C5 PFNA	25	Q	50 - 150				05/14/18 14:03	05/29/18 09:09	1
18O2 PFHxS	86		50 - 150				05/14/18 14:03	05/29/18 09:09	1
13C4 PFOS	18	Q	50 - 150				05/14/18 14:03	05/29/18 09:09	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	14	J D	38	10	ug/Kg	☼	05/14/18 14:03	05/29/18 15:49	100
Perfluorooctanoic acid (PFOA)	26	J D M	38	13	ug/Kg	☼	05/14/18 14:03	05/29/18 15:49	100
Perfluorononanoic acid (PFNA)	26	U M	38	10	ug/Kg	☼	05/14/18 14:03	05/29/18 15:49	100

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA04-SB2-01**

**Date Collected: 05/04/18 08:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-29**

**Matrix: Solid**

**Percent Solids: 78.9**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	14	J D	51	7.5	ug/Kg	☼	05/14/18 14:03	05/29/18 15:49	100
Perfluorohexanesulfonic acid (PFHxS)	200	D	38	7.9	ug/Kg	☼	05/14/18 14:03	05/29/18 15:49	100
Perfluorooctanesulfonic acid (PFOS)	6600	E D	130	31	ug/Kg	☼	05/14/18 14:03	05/29/18 15:49	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	111	M	50 - 150				05/14/18 14:03	05/29/18 15:49	100
13C4-PFHxS	74		50 - 150				05/14/18 14:03	05/29/18 15:49	100
13C4 PFOA	80		50 - 150				05/14/18 14:03	05/29/18 15:49	100
13C5 PFNA	68		50 - 150				05/14/18 14:03	05/29/18 15:49	100
18O2 PFHxS	64		50 - 150				05/14/18 14:03	05/29/18 15:49	100
13C4 PFOS	58		50 - 150				05/14/18 14:03	05/29/18 15:49	100

**Client Sample ID: KLA04-SB2-02**

**Date Collected: 05/04/18 08:25**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-30**

**Matrix: Solid**

**Percent Solids: 76.0**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	45	E	0.39	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 09:17	1
Perfluorooctanoic acid (PFOA)	200	E	0.39	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 09:17	1
Perfluorononanoic acid (PFNA)	1.6		0.39	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 09:17	1
Perfluorobutanesulfonic acid (PFBS)	91	E	0.53	0.078	ug/Kg	☼	05/14/18 14:03	05/29/18 09:17	1
Perfluorohexanesulfonic acid (PFHxS)	510	E	0.39	0.082	ug/Kg	☼	05/14/18 14:03	05/29/18 09:17	1
Perfluorooctanesulfonic acid (PFOS)	2100	E	1.3	0.32	ug/Kg	☼	05/14/18 14:03	05/29/18 09:17	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	125		50 - 150				05/14/18 14:03	05/29/18 09:17	1
13C4-PFHxS	69		50 - 150				05/14/18 14:03	05/29/18 09:17	1
13C4 PFOA	82		50 - 150				05/14/18 14:03	05/29/18 09:17	1
13C5 PFNA	55		50 - 150				05/14/18 14:03	05/29/18 09:17	1
18O2 PFHxS	65		50 - 150				05/14/18 14:03	05/29/18 09:17	1
13C4 PFOS	39	Q	50 - 150				05/14/18 14:03	05/29/18 09:17	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	44	D	39	10	ug/Kg	☼	05/14/18 14:03	05/29/18 15:57	100
Perfluorooctanoic acid (PFOA)	210	D	39	13	ug/Kg	☼	05/14/18 14:03	05/29/18 15:57	100
Perfluorononanoic acid (PFNA)	26	U M	39	11	ug/Kg	☼	05/14/18 14:03	05/29/18 15:57	100
Perfluorobutanesulfonic acid (PFBS)	84	D	53	7.8	ug/Kg	☼	05/14/18 14:03	05/29/18 15:57	100
Perfluorohexanesulfonic acid (PFHxS)	1100	D	39	8.2	ug/Kg	☼	05/14/18 14:03	05/29/18 15:57	100
Perfluorooctanesulfonic acid (PFOS)	4800	E D M	130	32	ug/Kg	☼	05/14/18 14:03	05/29/18 15:57	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	133	M	50 - 150				05/14/18 14:03	05/29/18 15:57	100
13C4-PFHxS	70		50 - 150				05/14/18 14:03	05/29/18 15:57	100

TestAmerica Sacramento



# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA04-SB2-02**

**Date Collected: 05/04/18 08:25**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-30**

**Matrix: Solid**

**Percent Solids: 76.0**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	95		50 - 150	05/14/18 14:03	05/29/18 15:57	100
13C5 PFNA	78		50 - 150	05/14/18 14:03	05/29/18 15:57	100
18O2 PFHxS	78		50 - 150	05/14/18 14:03	05/29/18 15:57	100
13C4 PFOS	61		50 - 150	05/14/18 14:03	05/29/18 15:57	100

**Client Sample ID: KLA04-SB3-01**

**Date Collected: 05/04/18 08:05**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-31**

**Matrix: Solid**

**Percent Solids: 78.4**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	3.8		0.38	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 09:25	1
Perfluorooctanoic acid (PFOA)	12		0.38	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 09:25	1
Perfluorononanoic acid (PFNA)	1.1	M	0.38	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 09:25	1
Perfluorobutanesulfonic acid (PFBS)	19		0.51	0.076	ug/Kg	☼	05/14/18 14:03	05/29/18 09:25	1
Perfluorohexanesulfonic acid (PFHxS)	51	E	0.38	0.079	ug/Kg	☼	05/14/18 14:03	05/29/18 09:25	1
Perfluorooctanesulfonic acid (PFOS)	1600	E	1.3	0.31	ug/Kg	☼	05/14/18 14:03	05/29/18 09:25	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	86		50 - 150				05/14/18 14:03	05/29/18 09:25	1
13C4-PFHpA	88		50 - 150				05/14/18 14:03	05/29/18 09:25	1
13C4 PFOA	84		50 - 150				05/14/18 14:03	05/29/18 09:25	1
13C5 PFNA	28	Q	50 - 150				05/14/18 14:03	05/29/18 09:25	1
18O2 PFHxS	77		50 - 150				05/14/18 14:03	05/29/18 09:25	1
13C4 PFOS	20	Q	50 - 150				05/14/18 14:03	05/29/18 09:25	1

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	3.7	J D	7.7	2.0	ug/Kg	☼	05/14/18 14:03	05/29/18 17:23	20
Perfluorooctanoic acid (PFOA)	12	D	7.7	2.6	ug/Kg	☼	05/14/18 14:03	05/29/18 17:23	20
Perfluorononanoic acid (PFNA)	5.1	U M	7.7	2.1	ug/Kg	☼	05/14/18 14:03	05/29/18 17:23	20
Perfluorobutanesulfonic acid (PFBS)	24	D	10	1.5	ug/Kg	☼	05/14/18 14:03	05/29/18 17:23	20
Perfluorohexanesulfonic acid (PFHxS)	53	D	7.7	1.6	ug/Kg	☼	05/14/18 14:03	05/29/18 17:23	20
Perfluorooctanesulfonic acid (PFOS)	3500	E D	26	6.1	ug/Kg	☼	05/14/18 14:03	05/29/18 17:23	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	54		50 - 150				05/14/18 14:03	05/29/18 17:23	20
13C4-PFHpA	75		50 - 150				05/14/18 14:03	05/29/18 17:23	20
13C4 PFOA	82		50 - 150				05/14/18 14:03	05/29/18 17:23	20
13C5 PFNA	59		50 - 150				05/14/18 14:03	05/29/18 17:23	20
18O2 PFHxS	69		50 - 150				05/14/18 14:03	05/29/18 17:23	20
13C4 PFOS	47	Q	50 - 150				05/14/18 14:03	05/29/18 17:23	20

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	26	U	38	10	ug/Kg	☼	05/14/18 14:03	05/29/18 16:12	100
Perfluorooctanoic acid (PFOA)	13	J D	38	13	ug/Kg	☼	05/14/18 14:03	05/29/18 16:12	100

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA04-SB3-01**

**Date Collected: 05/04/18 08:05**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-31**

**Matrix: Solid**

**Percent Solids: 78.4**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	26	U	38	10	ug/Kg	☼	05/14/18 14:03	05/29/18 16:12	100
Perfluorobutanesulfonic acid (PFBS)	16	J D	51	7.6	ug/Kg	☼	05/14/18 14:03	05/29/18 16:12	100
Perfluorohexanesulfonic acid (PFHxS)	61	D	38	7.9	ug/Kg	☼	05/14/18 14:03	05/29/18 16:12	100
Perfluorooctanesulfonic acid (PFOS)	4500	E D	130	31	ug/Kg	☼	05/14/18 14:03	05/29/18 16:12	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	71	M	50 - 150				05/14/18 14:03	05/29/18 16:12	100
13C4-PFHpA	74		50 - 150				05/14/18 14:03	05/29/18 16:12	100
13C4 PFOA	78		50 - 150				05/14/18 14:03	05/29/18 16:12	100
13C5 PFNA	73		50 - 150				05/14/18 14:03	05/29/18 16:12	100
18O2 PFHxS	53		50 - 150				05/14/18 14:03	05/29/18 16:12	100
13C4 PFOS	57		50 - 150				05/14/18 14:03	05/29/18 16:12	100

**Client Sample ID: KLA04-SB3-02**

**Date Collected: 05/04/18 08:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-32**

**Matrix: Solid**

**Percent Solids: 65.2**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	29		0.46	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 09:33	1
Perfluorooctanoic acid (PFOA)	83	E	0.46	0.15	ug/Kg	☼	05/14/18 14:03	05/29/18 09:33	1
Perfluorononanoic acid (PFNA)	1.2		0.46	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 09:33	1
Perfluorobutanesulfonic acid (PFBS)	80	E	0.61	0.091	ug/Kg	☼	05/14/18 14:03	05/29/18 09:33	1
Perfluorohexanesulfonic acid (PFHxS)	410	E	0.46	0.095	ug/Kg	☼	05/14/18 14:03	05/29/18 09:33	1
Perfluorooctanesulfonic acid (PFOS)	1900	E M	1.5	0.37	ug/Kg	☼	05/14/18 14:03	05/29/18 09:33	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	109		50 - 150				05/14/18 14:03	05/29/18 09:33	1
13C4-PFHpA	77		50 - 150				05/14/18 14:03	05/29/18 09:33	1
13C4 PFOA	87		50 - 150				05/14/18 14:03	05/29/18 09:33	1
13C5 PFNA	51		50 - 150				05/14/18 14:03	05/29/18 09:33	1
18O2 PFHxS	65		50 - 150				05/14/18 14:03	05/29/18 09:33	1
13C4 PFOS	39	Q	50 - 150				05/14/18 14:03	05/29/18 09:33	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	27	D	9.2	2.4	ug/Kg	☼	05/14/18 14:03	05/29/18 17:31	20
Perfluorooctanoic acid (PFOA)	85	D	9.2	3.1	ug/Kg	☼	05/14/18 14:03	05/29/18 17:31	20
Perfluorononanoic acid (PFNA)	6.1	U M	9.2	2.5	ug/Kg	☼	05/14/18 14:03	05/29/18 17:31	20
Perfluorobutanesulfonic acid (PFBS)	110	D	12	1.8	ug/Kg	☼	05/14/18 14:03	05/29/18 17:31	20
Perfluorohexanesulfonic acid (PFHxS)	730	E D	9.2	1.9	ug/Kg	☼	05/14/18 14:03	05/29/18 17:31	20
Perfluorooctanesulfonic acid (PFOS)	3500	E D M	31	7.4	ug/Kg	☼	05/14/18 14:03	05/29/18 17:31	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	88		50 - 150				05/14/18 14:03	05/29/18 17:31	20

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA04-SB3-02**

**Date Collected: 05/04/18 08:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-32**

**Matrix: Solid**

**Percent Solids: 65.2**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4-PFHpA	84		50 - 150	05/14/18 14:03	05/29/18 17:31	20
13C4 PFOA	87		50 - 150	05/14/18 14:03	05/29/18 17:31	20
13C5 PFNA	78		50 - 150	05/14/18 14:03	05/29/18 17:31	20
18O2 PFHxS	76		50 - 150	05/14/18 14:03	05/29/18 17:31	20
13C4 PFOS	63		50 - 150	05/14/18 14:03	05/29/18 17:31	20

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	33	J D	46	12	ug/Kg	☼	05/14/18 14:03	05/29/18 16:20	100
Perfluorooctanoic acid (PFOA)	79	D	46	15	ug/Kg	☼	05/14/18 14:03	05/29/18 16:20	100
Perfluorononanoic acid (PFNA)	31	U M	46	12	ug/Kg	☼	05/14/18 14:03	05/29/18 16:20	100
Perfluorobutanesulfonic acid (PFBS)	110	D	61	9.1	ug/Kg	☼	05/14/18 14:03	05/29/18 16:20	100
Perfluorohexanesulfonic acid (PFHxS)	730	D	46	9.5	ug/Kg	☼	05/14/18 14:03	05/29/18 16:20	100
Perfluorooctanesulfonic acid (PFOS)	3800	E D M	150	37	ug/Kg	☼	05/14/18 14:03	05/29/18 16:20	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	72	M	50 - 150				05/14/18 14:03	05/29/18 16:20	100
13C4-PFHpA	62		50 - 150				05/14/18 14:03	05/29/18 16:20	100
13C4 PFOA	89		50 - 150				05/14/18 14:03	05/29/18 16:20	100
13C5 PFNA	78		50 - 150				05/14/18 14:03	05/29/18 16:20	100
18O2 PFHxS	69		50 - 150				05/14/18 14:03	05/29/18 16:20	100
13C4 PFOS	64		50 - 150				05/14/18 14:03	05/29/18 16:20	100

**Client Sample ID: KLA05-SB1-01**

**Date Collected: 05/05/18 09:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-33**

**Matrix: Solid**

**Percent Solids: 79.9**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.6		0.38	0.098	ug/Kg	☼	05/14/18 14:03	05/29/18 09:41	1
Perfluorooctanoic acid (PFOA)	2.3		0.38	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 09:41	1
Perfluorononanoic acid (PFNA)	0.61	M	0.38	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 09:41	1
Perfluorobutanesulfonic acid (PFBS)	4.9		0.50	0.074	ug/Kg	☼	05/14/18 14:03	05/29/18 09:41	1
Perfluorohexanesulfonic acid (PFHxS)	74	E	0.38	0.078	ug/Kg	☼	05/14/18 14:03	05/29/18 09:41	1
Perfluorooctanesulfonic acid (PFOS)	130	E	1.3	0.30	ug/Kg	☼	05/14/18 14:03	05/29/18 09:41	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	72		50 - 150				05/14/18 14:03	05/29/18 09:41	1
13C4-PFHpA	81		50 - 150				05/14/18 14:03	05/29/18 09:41	1
13C4 PFOA	90		50 - 150				05/14/18 14:03	05/29/18 09:41	1
13C5 PFNA	74		50 - 150				05/14/18 14:03	05/29/18 09:41	1
18O2 PFHxS	68		50 - 150				05/14/18 14:03	05/29/18 09:41	1
13C4 PFOS	68		50 - 150				05/14/18 14:03	05/29/18 09:41	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5.0	U	7.6	2.0	ug/Kg	☼	05/14/18 14:03	05/29/18 14:38	20

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA05-SB1-01**

**Date Collected: 05/05/18 09:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-33**

**Matrix: Solid**

**Percent Solids: 79.9**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	5.0	U M	7.6	2.5	ug/Kg	☼	05/14/18 14:03	05/29/18 14:38	20
Perfluorononanoic acid (PFNA)	5.0	U	7.6	2.0	ug/Kg	☼	05/14/18 14:03	05/29/18 14:38	20
Perfluorobutanesulfonic acid (PFBS)	6.2	J D	10	1.5	ug/Kg	☼	05/14/18 14:03	05/29/18 14:38	20
Perfluorohexanesulfonic acid (PFHxS)	78	D	7.6	1.6	ug/Kg	☼	05/14/18 14:03	05/29/18 14:38	20
Perfluorooctanesulfonic acid (PFOS)	170	D	25	6.0	ug/Kg	☼	05/14/18 14:03	05/29/18 14:38	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	54		50 - 150				05/14/18 14:03	05/29/18 14:38	20
13C4-PFHpA	83		50 - 150				05/14/18 14:03	05/29/18 14:38	20
13C4 PFOA	97		50 - 150				05/14/18 14:03	05/29/18 14:38	20
13C5 PFNA	90		50 - 150				05/14/18 14:03	05/29/18 14:38	20
18O2 PFHxS	75		50 - 150				05/14/18 14:03	05/29/18 14:38	20
13C4 PFOS	69		50 - 150				05/14/18 14:03	05/29/18 14:38	20

**Client Sample ID: KLA05-SB1-02**

**Date Collected: 05/05/18 09:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-34**

**Matrix: Solid**

**Percent Solids: 78.5**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.25	U	0.38	0.098	ug/Kg	☼	05/14/18 14:03	05/29/18 14:15	1
Perfluorooctanoic acid (PFOA)	0.23	J	0.38	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 14:15	1
Perfluorononanoic acid (PFNA)	0.25	U	0.38	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 14:15	1
Perfluorobutanesulfonic acid (PFBS)	0.077	J	0.50	0.074	ug/Kg	☼	05/14/18 14:03	05/29/18 14:15	1
Perfluorohexanesulfonic acid (PFHxS)	2.6		0.38	0.078	ug/Kg	☼	05/14/18 14:03	05/29/18 14:15	1
Perfluorooctanesulfonic acid (PFOS)	6.5		1.3	0.30	ug/Kg	☼	05/14/18 14:03	05/29/18 14:15	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	68		50 - 150				05/14/18 14:03	05/29/18 14:15	1
13C4-PFHpA	81		50 - 150				05/14/18 14:03	05/29/18 14:15	1
13C4 PFOA	88		50 - 150				05/14/18 14:03	05/29/18 14:15	1
13C5 PFNA	88		50 - 150				05/14/18 14:03	05/29/18 14:15	1
18O2 PFHxS	70		50 - 150				05/14/18 14:03	05/29/18 14:15	1
13C4 PFOS	72		50 - 150				05/14/18 14:03	05/29/18 14:15	1

**Client Sample ID: KLA05-SB2-01**

**Date Collected: 05/05/18 09:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-35**

**Matrix: Solid**

**Percent Solids: 85.2**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.45		0.36	0.092	ug/Kg	☼	05/14/18 14:03	05/29/18 09:56	1
Perfluorooctanoic acid (PFOA)	1.6		0.36	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 09:56	1
Perfluorononanoic acid (PFNA)	0.36		0.36	0.096	ug/Kg	☼	05/14/18 14:03	05/29/18 09:56	1
Perfluorobutanesulfonic acid (PFBS)	0.32	J	0.47	0.070	ug/Kg	☼	05/14/18 14:03	05/29/18 09:56	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA05-SB2-01**

**Date Collected: 05/05/18 09:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-35**

**Matrix: Solid**

**Percent Solids: 85.2**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	20		0.36	0.073	ug/Kg	☼	05/14/18 14:03	05/29/18 09:56	1
Perfluorooctanesulfonic acid (PFOS)	37	E	1.2	0.28	ug/Kg	☼	05/14/18 14:03	05/29/18 09:56	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	69		50 - 150				05/14/18 14:03	05/29/18 09:56	1
13C4-PFHpA	85		50 - 150				05/14/18 14:03	05/29/18 09:56	1
13C4 PFOA	92		50 - 150				05/14/18 14:03	05/29/18 09:56	1
13C5 PFNA	89		50 - 150				05/14/18 14:03	05/29/18 09:56	1
18O2 PFHxS	71		50 - 150				05/14/18 14:03	05/29/18 09:56	1
13C4 PFOS	73		50 - 150				05/14/18 14:03	05/29/18 09:56	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	2.4	U	3.6	0.92	ug/Kg	☼	05/14/18 14:03	05/29/18 14:46	10
Perfluorooctanoic acid (PFOA)	1.8	J D	3.6	1.2	ug/Kg	☼	05/14/18 14:03	05/29/18 14:46	10
Perfluorononanoic acid (PFNA)	2.4	U M	3.6	0.96	ug/Kg	☼	05/14/18 14:03	05/29/18 14:46	10
Perfluorobutanesulfonic acid (PFBS)	2.1	U	4.7	0.70	ug/Kg	☼	05/14/18 14:03	05/29/18 14:46	10
Perfluorohexanesulfonic acid (PFHxS)	20	D	3.6	0.73	ug/Kg	☼	05/14/18 14:03	05/29/18 14:46	10
Perfluorooctanesulfonic acid (PFOS)	40	D	12	2.8	ug/Kg	☼	05/14/18 14:03	05/29/18 14:46	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	59		50 - 150				05/14/18 14:03	05/29/18 14:46	10
13C4-PFHpA	82		50 - 150				05/14/18 14:03	05/29/18 14:46	10
13C4 PFOA	86		50 - 150				05/14/18 14:03	05/29/18 14:46	10
13C5 PFNA	89		50 - 150				05/14/18 14:03	05/29/18 14:46	10
18O2 PFHxS	70		50 - 150				05/14/18 14:03	05/29/18 14:46	10
13C4 PFOS	69		50 - 150				05/14/18 14:03	05/29/18 14:46	10

**Client Sample ID: KLA05-SB2-02**

**Date Collected: 05/05/18 09:40**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-36**

**Matrix: Solid**

**Percent Solids: 75.4**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.38	J	0.40	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 10:04	1
Perfluorooctanoic acid (PFOA)	1.2		0.40	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 10:04	1
Perfluorononanoic acid (PFNA)	0.34	J M	0.40	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 10:04	1
Perfluorobutanesulfonic acid (PFBS)	0.29	J	0.53	0.078	ug/Kg	☼	05/14/18 14:03	05/29/18 10:04	1
Perfluorohexanesulfonic acid (PFHxS)	8.9		0.40	0.082	ug/Kg	☼	05/14/18 14:03	05/29/18 10:04	1
Perfluorooctanesulfonic acid (PFOS)	40	E	1.3	0.32	ug/Kg	☼	05/14/18 14:03	05/29/18 10:04	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	70		50 - 150				05/14/18 14:03	05/29/18 10:04	1
13C4-PFHpA	74		50 - 150				05/14/18 14:03	05/29/18 10:04	1
13C4 PFOA	85		50 - 150				05/14/18 14:03	05/29/18 10:04	1
13C5 PFNA	87		50 - 150				05/14/18 14:03	05/29/18 10:04	1
18O2 PFHxS	74		50 - 150				05/14/18 14:03	05/29/18 10:04	1

TestAmerica Sacramento



# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA05-SB2-02**

**Date Collected: 05/05/18 09:40**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-36**

**Matrix: Solid**

**Percent Solids: 75.4**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<sup>13</sup> C4 PFOS	72		50 - 150	05/14/18 14:03	05/29/18 10:04	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	2.7	U	4.0	1.0	ug/Kg	☼	05/14/18 14:03	05/29/18 14:54	10
Perfluorooctanoic acid (PFOA)	1.3	J D	4.0	1.3	ug/Kg	☼	05/14/18 14:03	05/29/18 14:54	10
Perfluorononanoic acid (PFNA)	2.7	U	4.0	1.1	ug/Kg	☼	05/14/18 14:03	05/29/18 14:54	10
Perfluorobutanesulfonic acid (PFBS)	2.4	U	5.3	0.78	ug/Kg	☼	05/14/18 14:03	05/29/18 14:54	10
Perfluorohexanesulfonic acid (PFHxS)	9.7	D	4.0	0.82	ug/Kg	☼	05/14/18 14:03	05/29/18 14:54	10
Perfluorooctanesulfonic acid (PFOS)	42	D M	13	3.2	ug/Kg	☼	05/14/18 14:03	05/29/18 14:54	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	72		50 - 150				05/14/18 14:03	05/29/18 14:54	10
13C4-PFHpA	77		50 - 150				05/14/18 14:03	05/29/18 14:54	10
13C4 PFOA	92		50 - 150				05/14/18 14:03	05/29/18 14:54	10
13C5 PFNA	85		50 - 150				05/14/18 14:03	05/29/18 14:54	10
18O2 PFHxS	72		50 - 150				05/14/18 14:03	05/29/18 14:54	10
13C4 PFOS	70		50 - 150				05/14/18 14:03	05/29/18 14:54	10

**Client Sample ID: KLA05-SB3-01**

**Date Collected: 05/05/18 10:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-37**

**Matrix: Solid**

**Percent Solids: 83.8**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	14		0.36	0.092	ug/Kg	☼	05/14/18 14:03	05/29/18 10:20	1
Perfluorooctanoic acid (PFOA)	57	E	0.36	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 10:20	1
Perfluorononanoic acid (PFNA)	2.6	M	0.36	0.096	ug/Kg	☼	05/14/18 14:03	05/29/18 10:20	1
Perfluorobutanesulfonic acid (PFBS)	6.7		0.47	0.070	ug/Kg	☼	05/14/18 14:03	05/29/18 10:20	1
Perfluorohexanesulfonic acid (PFHxS)	430	E	0.36	0.073	ug/Kg	☼	05/14/18 14:03	05/29/18 10:20	1
Perfluorooctanesulfonic acid (PFOS)	4600	E	1.2	0.28	ug/Kg	☼	05/14/18 14:03	05/29/18 10:20	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	122		50 - 150				05/14/18 14:03	05/29/18 10:20	1
13C4-PFHpA	66		50 - 150				05/14/18 14:03	05/29/18 10:20	1
13C4 PFOA	87		50 - 150				05/14/18 14:03	05/29/18 10:20	1
13C5 PFNA	19	Q	50 - 150				05/14/18 14:03	05/29/18 10:20	1
18O2 PFHxS	46	Q	50 - 150				05/14/18 14:03	05/29/18 10:20	1
13C4 PFOS	13	Q	50 - 150				05/14/18 14:03	05/29/18 10:20	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	13	J D	36	9.2	ug/Kg	☼	05/14/18 14:03	05/29/18 16:28	100
Perfluorooctanoic acid (PFOA)	62	D	36	12	ug/Kg	☼	05/14/18 14:03	05/29/18 16:28	100
Perfluorononanoic acid (PFNA)	24	U	36	9.6	ug/Kg	☼	05/14/18 14:03	05/29/18 16:28	100
Perfluorobutanesulfonic acid (PFBS)	7.3	J D	47	7.0	ug/Kg	☼	05/14/18 14:03	05/29/18 16:28	100

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA05-SB3-01**

**Date Collected: 05/05/18 10:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-37**

**Matrix: Solid**

**Percent Solids: 83.8**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	650	D	36	7.3	ug/Kg	☼	05/14/18 14:03	05/29/18 16:28	100
Perfluorooctanesulfonic acid (PFOS)	14000	E D	120	28	ug/Kg	☼	05/14/18 14:03	05/29/18 16:28	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	60	M	50 - 150				05/14/18 14:03	05/29/18 16:28	100
13C4-PFHpA	80		50 - 150				05/14/18 14:03	05/29/18 16:28	100
13C4 PFOA	82		50 - 150				05/14/18 14:03	05/29/18 16:28	100
13C5 PFNA	68		50 - 150				05/14/18 14:03	05/29/18 16:28	100
18O2 PFHxS	75		50 - 150				05/14/18 14:03	05/29/18 16:28	100
13C4 PFOS	53		50 - 150				05/14/18 14:03	05/29/18 16:28	100

**Client Sample ID: KLA05-SB3-02**

**Date Collected: 05/05/18 10:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-38**

**Matrix: Solid**

**Percent Solids: 80.4**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.5		0.37	0.097	ug/Kg	☼	05/14/18 14:03	05/29/18 10:28	1
Perfluorooctanoic acid (PFOA)	3.8		0.37	0.12	ug/Kg	☼	05/14/18 14:03	05/29/18 10:28	1
Perfluorononanoic acid (PFNA)	0.25	J M	0.37	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 10:28	1
Perfluorobutanesulfonic acid (PFBS)	0.58		0.50	0.074	ug/Kg	☼	05/14/18 14:03	05/29/18 10:28	1
Perfluorohexanesulfonic acid (PFHxS)	15		0.37	0.077	ug/Kg	☼	05/14/18 14:03	05/29/18 10:28	1
Perfluorooctanesulfonic acid (PFOS)	560	E	1.2	0.30	ug/Kg	☼	05/14/18 14:03	05/29/18 10:28	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	73		50 - 150				05/14/18 14:03	05/29/18 10:28	1
13C4-PFHpA	81		50 - 150				05/14/18 14:03	05/29/18 10:28	1
13C4 PFOA	87		50 - 150				05/14/18 14:03	05/29/18 10:28	1
13C5 PFNA	50		50 - 150				05/14/18 14:03	05/29/18 10:28	1
18O2 PFHxS	73		50 - 150				05/14/18 14:03	05/29/18 10:28	1
13C4 PFOS	40	Q	50 - 150				05/14/18 14:03	05/29/18 10:28	1

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	25	U	37	9.7	ug/Kg	☼	05/14/18 14:03	05/29/18 16:44	100
Perfluorooctanoic acid (PFOA)	25	U	37	12	ug/Kg	☼	05/14/18 14:03	05/29/18 16:44	100
Perfluorononanoic acid (PFNA)	25	U	37	10	ug/Kg	☼	05/14/18 14:03	05/29/18 16:44	100
Perfluorobutanesulfonic acid (PFBS)	22	U	50	7.4	ug/Kg	☼	05/14/18 14:03	05/29/18 16:44	100
Perfluorohexanesulfonic acid (PFHxS)	13	J D	37	7.7	ug/Kg	☼	05/14/18 14:03	05/29/18 16:44	100
Perfluorooctanesulfonic acid (PFOS)	980	D	120	30	ug/Kg	☼	05/14/18 14:03	05/29/18 16:44	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	78	M	50 - 150				05/14/18 14:03	05/29/18 16:44	100
13C4-PFHpA	81		50 - 150				05/14/18 14:03	05/29/18 16:44	100
13C4 PFOA	99		50 - 150				05/14/18 14:03	05/29/18 16:44	100
13C5 PFNA	98		50 - 150				05/14/18 14:03	05/29/18 16:44	100
18O2 PFHxS	79		50 - 150				05/14/18 14:03	05/29/18 16:44	100

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA05-SB3-02**

**Date Collected: 05/05/18 10:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-38**

**Matrix: Solid**

**Percent Solids: 80.4**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<sup>13</sup> C4 PFOS	70		50 - 150	05/14/18 14:03	05/29/18 16:44	100

**Client Sample ID: KLA06-SB1-01**

**Date Collected: 05/01/18 14:15**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-39**

**Matrix: Solid**

**Percent Solids: 73.2**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.71		0.41	0.11	ug/Kg	☼	05/14/18 13:10	06/06/18 23:18	1
Perfluorooctanoic acid (PFOA)	1.3		0.41	0.14	ug/Kg	☼	05/14/18 13:10	06/06/18 23:18	1
Perfluorononanoic acid (PFNA)	2.4		0.41	0.11	ug/Kg	☼	05/14/18 13:10	06/06/18 23:18	1
Perfluorobutanesulfonic acid (PFBS)	0.27	J	0.54	0.080	ug/Kg	☼	05/14/18 13:10	06/06/18 23:18	1
Perfluorohexanesulfonic acid (PFHxS)	11		0.41	0.084	ug/Kg	☼	05/14/18 13:10	06/06/18 23:18	1
Perfluorooctanesulfonic acid (PFOS)	190	M E	1.4	0.32	ug/Kg	☼	05/14/18 13:10	06/06/18 23:18	1
Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<sup>13</sup> C3-PFBS	72		50 - 150	05/14/18 13:10	06/06/18 23:18	1			
<sup>13</sup> C4-PFHpA	77		50 - 150	05/14/18 13:10	06/06/18 23:18	1			
<sup>13</sup> C4 PFOA	79		50 - 150	05/14/18 13:10	06/06/18 23:18	1			
<sup>13</sup> C5 PFNA	62		50 - 150	05/14/18 13:10	06/06/18 23:18	1			
<sup>18</sup> O2 PFHxS	73		50 - 150	05/14/18 13:10	06/06/18 23:18	1			
<sup>13</sup> C4 PFOS	62		50 - 150	05/14/18 13:10	06/06/18 23:18	1			

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5.4	U	8.1	2.1	ug/Kg	☼	05/14/18 13:10	05/29/18 11:30	20
Perfluorooctanoic acid (PFOA)	5.4	U M	8.1	2.7	ug/Kg	☼	05/14/18 13:10	05/29/18 11:30	20
Perfluorononanoic acid (PFNA)	2.5	J D	8.1	2.2	ug/Kg	☼	05/14/18 13:10	05/29/18 11:30	20
Perfluorobutanesulfonic acid (PFBS)	4.9	U	11	1.6	ug/Kg	☼	05/14/18 13:10	05/29/18 11:30	20
Perfluorohexanesulfonic acid (PFHxS)	11	D	8.1	1.7	ug/Kg	☼	05/14/18 13:10	05/29/18 11:30	20
Perfluorooctanesulfonic acid (PFOS)	250	D	27	6.5	ug/Kg	☼	05/14/18 13:10	05/29/18 11:30	20
Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<sup>13</sup> C3-PFBS	67		50 - 150	05/14/18 13:10	05/29/18 11:30	20			
<sup>13</sup> C4-PFHpA	76		50 - 150	05/14/18 13:10	05/29/18 11:30	20			
<sup>13</sup> C4 PFOA	82		50 - 150	05/14/18 13:10	05/29/18 11:30	20			
<sup>13</sup> C5 PFNA	79		50 - 150	05/14/18 13:10	05/29/18 11:30	20			
<sup>18</sup> O2 PFHxS	71		50 - 150	05/14/18 13:10	05/29/18 11:30	20			
<sup>13</sup> C4 PFOS	68		50 - 150	05/14/18 13:10	05/29/18 11:30	20			

**Client Sample ID: KLA06-SB1-02**

**Date Collected: 05/01/18 14:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-40**

**Matrix: Solid**

**Percent Solids: 79.6**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.25	J	0.37	0.097	ug/Kg	☼	05/14/18 13:10	06/06/18 23:26	1
Perfluorooctanoic acid (PFOA)	1.1		0.37	0.12	ug/Kg	☼	05/14/18 13:10	06/06/18 23:26	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA06-SB1-02**

**Date Collected: 05/01/18 14:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-40**

**Matrix: Solid**

**Percent Solids: 79.6**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	1.4		0.37	0.10	ug/Kg	☼	05/14/18 13:10	06/06/18 23:26	1
Perfluorobutanesulfonic acid (PFBS)	0.19	J	0.50	0.073	ug/Kg	☼	05/14/18 13:10	06/06/18 23:26	1
Perfluorohexanesulfonic acid (PFHxS)	6.8		0.37	0.077	ug/Kg	☼	05/14/18 13:10	06/06/18 23:26	1
Perfluorooctanesulfonic acid (PFOS)	100	M E	1.2	0.30	ug/Kg	☼	05/14/18 13:10	06/06/18 23:26	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	68		50 - 150				05/14/18 13:10	06/06/18 23:26	1
13C4-PFHpa	81		50 - 150				05/14/18 13:10	06/06/18 23:26	1
13C4 PFOA	76		50 - 150				05/14/18 13:10	06/06/18 23:26	1
13C5 PFNA	70		50 - 150				05/14/18 13:10	06/06/18 23:26	1
18O2 PFHxS	72		50 - 150				05/14/18 13:10	06/06/18 23:26	1
13C4 PFOS	68		50 - 150				05/14/18 13:10	06/06/18 23:26	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5.0	U M	7.4	1.9	ug/Kg	☼	05/14/18 13:10	05/29/18 11:38	20
Perfluorooctanoic acid (PFOA)	5.0	U	7.4	2.5	ug/Kg	☼	05/14/18 13:10	05/29/18 11:38	20
Perfluorononanoic acid (PFNA)	5.0	U M	7.4	2.0	ug/Kg	☼	05/14/18 13:10	05/29/18 11:38	20
Perfluorobutanesulfonic acid (PFBS)	4.5	U M	9.9	1.5	ug/Kg	☼	05/14/18 13:10	05/29/18 11:38	20
Perfluorohexanesulfonic acid (PFHxS)	6.6	J D	7.4	1.5	ug/Kg	☼	05/14/18 13:10	05/29/18 11:38	20
Perfluorooctanesulfonic acid (PFOS)	120	D	25	6.0	ug/Kg	☼	05/14/18 13:10	05/29/18 11:38	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	69		50 - 150				05/14/18 13:10	05/29/18 11:38	20
13C4-PFHpa	76		50 - 150				05/14/18 13:10	05/29/18 11:38	20
13C4 PFOA	81		50 - 150				05/14/18 13:10	05/29/18 11:38	20
13C5 PFNA	78		50 - 150				05/14/18 13:10	05/29/18 11:38	20
18O2 PFHxS	69		50 - 150				05/14/18 13:10	05/29/18 11:38	20
13C4 PFOS	68		50 - 150				05/14/18 13:10	05/29/18 11:38	20

**Client Sample ID: KLA06-SB2-01**

**Date Collected: 05/01/18 13:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-41**

**Matrix: Solid**

**Percent Solids: 63.5**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.2	J1	0.48	0.12	ug/Kg	☼	05/14/18 13:10	06/06/18 23:34	1
Perfluorooctanoic acid (PFOA)	6.7	J1	0.48	0.16	ug/Kg	☼	05/14/18 13:10	06/06/18 23:34	1
Perfluorononanoic acid (PFNA)	1.6		0.48	0.13	ug/Kg	☼	05/14/18 13:10	06/06/18 23:34	1
Perfluorobutanesulfonic acid (PFBS)	0.99		0.64	0.094	ug/Kg	☼	05/14/18 13:10	06/06/18 23:34	1
Perfluorohexanesulfonic acid (PFHxS)	42	E J1	0.48	0.099	ug/Kg	☼	05/14/18 13:10	06/06/18 23:34	1
Perfluorooctanesulfonic acid (PFOS)	580	E J1	1.6	0.38	ug/Kg	☼	05/14/18 13:10	06/06/18 23:34	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	82		50 - 150				05/14/18 13:10	06/06/18 23:34	1
13C4-PFHpa	82		50 - 150				05/14/18 13:10	06/06/18 23:34	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA06-SB2-01**

**Lab Sample ID: 320-39023-41**

**Date Collected: 05/01/18 13:45**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 63.5**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	84		50 - 150	05/14/18 13:10	06/06/18 23:34	1
13C5 PFNA	54		50 - 150	05/14/18 13:10	06/06/18 23:34	1
18O2 PFHxS	75		50 - 150	05/14/18 13:10	06/06/18 23:34	1
13C4 PFOS	54		50 - 150	05/14/18 13:10	06/06/18 23:34	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.2	J D J1	4.8	1.2	ug/Kg	☼	05/14/18 13:10	05/29/18 12:49	10
Perfluorooctanoic acid (PFOA)	6.7	D J1	4.8	1.6	ug/Kg	☼	05/14/18 13:10	05/29/18 12:49	10
Perfluorononanoic acid (PFNA)	1.6	J D	4.8	1.3	ug/Kg	☼	05/14/18 13:10	05/29/18 12:49	10
Perfluorobutanesulfonic acid (PFBS)	1.0	J D J1	6.4	0.94	ug/Kg	☼	05/14/18 13:10	05/29/18 12:49	10
Perfluorohexanesulfonic acid (PFHxS)	44	D J1	4.8	0.99	ug/Kg	☼	05/14/18 13:10	05/29/18 12:49	10
Perfluorooctanesulfonic acid (PFOS)	860	E D M J1	16	3.8	ug/Kg	☼	05/14/18 13:10	05/29/18 12:49	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	67		50 - 150				05/14/18 13:10	05/29/18 12:49	10
13C4-PFHpA	80		50 - 150				05/14/18 13:10	05/29/18 12:49	10
13C4 PFOA	85		50 - 150				05/14/18 13:10	05/29/18 12:49	10
13C5 PFNA	77		50 - 150				05/14/18 13:10	05/29/18 12:49	10
18O2 PFHxS	74		50 - 150				05/14/18 13:10	05/29/18 12:49	10
13C4 PFOS	64		50 - 150				05/14/18 13:10	05/29/18 12:49	10

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	32	U	48	12	ug/Kg	☼	05/14/18 13:10	05/29/18 12:02	100
Perfluorooctanoic acid (PFOA)	32	U	48	16	ug/Kg	☼	05/14/18 13:10	05/29/18 12:02	100
Perfluorononanoic acid (PFNA)	32	U	48	13	ug/Kg	☼	05/14/18 13:10	05/29/18 12:02	100
Perfluorobutanesulfonic acid (PFBS)	29	U	64	9.4	ug/Kg	☼	05/14/18 13:10	05/29/18 12:02	100
Perfluorohexanesulfonic acid (PFHxS)	39	J D J1	48	9.9	ug/Kg	☼	05/14/18 13:10	05/29/18 12:02	100
Perfluorooctanesulfonic acid (PFOS)	960	D M J1	160	38	ug/Kg	☼	05/14/18 13:10	05/29/18 12:02	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	68	M	50 - 150				05/14/18 13:10	05/29/18 12:02	100
13C4-PFHpA	66		50 - 150				05/14/18 13:10	05/29/18 12:02	100
13C4 PFOA	81		50 - 150				05/14/18 13:10	05/29/18 12:02	100
13C5 PFNA	74		50 - 150				05/14/18 13:10	05/29/18 12:02	100
18O2 PFHxS	71		50 - 150				05/14/18 13:10	05/29/18 12:02	100
13C4 PFOS	60		50 - 150				05/14/18 13:10	05/29/18 12:02	100

**Client Sample ID: KLA06-SB2-02**

**Lab Sample ID: 320-39023-42**

**Date Collected: 05/01/18 13:50**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 70.3**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.6		0.43	0.11	ug/Kg	☼	05/14/18 13:10	06/07/18 00:13	1
Perfluorooctanoic acid (PFOA)	6.4		0.43	0.14	ug/Kg	☼	05/14/18 13:10	06/07/18 00:13	1
Perfluorononanoic acid (PFNA)	1.7		0.43	0.12	ug/Kg	☼	05/14/18 13:10	06/07/18 00:13	1

TestAmerica Sacramento



# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA06-SB2-02**

**Lab Sample ID: 320-39023-42**

**Date Collected: 05/01/18 13:50**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 70.3**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	2.1		0.57	0.084	ug/Kg	☼	05/14/18 13:10	06/07/18 00:13	1
Perfluorohexanesulfonic acid (PFHxS)	40	E	0.43	0.089	ug/Kg	☼	05/14/18 13:10	06/07/18 00:13	1
Perfluorooctanesulfonic acid (PFOS)	920	E	1.4	0.34	ug/Kg	☼	05/14/18 13:10	06/07/18 00:13	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	81		50 - 150				05/14/18 13:10	06/07/18 00:13	1
13C4-PFHpA	83		50 - 150				05/14/18 13:10	06/07/18 00:13	1
13C4 PFOA	83		50 - 150				05/14/18 13:10	06/07/18 00:13	1
13C5 PFNA	44	Q	50 - 150				05/14/18 13:10	06/07/18 00:13	1
18O2 PFHxS	75		50 - 150				05/14/18 13:10	06/07/18 00:13	1
13C4 PFOS	40	Q	50 - 150				05/14/18 13:10	06/07/18 00:13	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.8	J D	4.3	1.1	ug/Kg	☼	05/14/18 13:10	05/29/18 13:28	10
Perfluorooctanoic acid (PFOA)	6.2	D	4.3	1.4	ug/Kg	☼	05/14/18 13:10	05/29/18 13:28	10
Perfluorononanoic acid (PFNA)	1.8	J D	4.3	1.2	ug/Kg	☼	05/14/18 13:10	05/29/18 13:28	10
Perfluorobutanesulfonic acid (PFBS)	2.1	J D	5.7	0.84	ug/Kg	☼	05/14/18 13:10	05/29/18 13:28	10
Perfluorohexanesulfonic acid (PFHxS)	45	D	4.3	0.89	ug/Kg	☼	05/14/18 13:10	05/29/18 13:28	10
Perfluorooctanesulfonic acid (PFOS)	1300	E D	14	3.4	ug/Kg	☼	05/14/18 13:10	05/29/18 13:28	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	73		50 - 150				05/14/18 13:10	05/29/18 13:28	10
13C4-PFHpA	78		50 - 150				05/14/18 13:10	05/29/18 13:28	10
13C4 PFOA	90		50 - 150				05/14/18 13:10	05/29/18 13:28	10
13C5 PFNA	75		50 - 150				05/14/18 13:10	05/29/18 13:28	10
18O2 PFHxS	72		50 - 150				05/14/18 13:10	05/29/18 13:28	10
13C4 PFOS	61		50 - 150				05/14/18 13:10	05/29/18 13:28	10

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	29	U	43	11	ug/Kg	☼	05/14/18 13:10	05/29/18 12:25	100
Perfluorooctanoic acid (PFOA)	29	U M	43	14	ug/Kg	☼	05/14/18 13:10	05/29/18 12:25	100
Perfluorononanoic acid (PFNA)	29	U	43	12	ug/Kg	☼	05/14/18 13:10	05/29/18 12:25	100
Perfluorobutanesulfonic acid (PFBS)	26	U	57	8.4	ug/Kg	☼	05/14/18 13:10	05/29/18 12:25	100
Perfluorohexanesulfonic acid (PFHxS)	42	J D	43	8.9	ug/Kg	☼	05/14/18 13:10	05/29/18 12:25	100
Perfluorooctanesulfonic acid (PFOS)	1600	D	140	34	ug/Kg	☼	05/14/18 13:10	05/29/18 12:25	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	61	M	50 - 150				05/14/18 13:10	05/29/18 12:25	100
13C4-PFHpA	72		50 - 150				05/14/18 13:10	05/29/18 12:25	100
13C4 PFOA	78		50 - 150				05/14/18 13:10	05/29/18 12:25	100
13C5 PFNA	78		50 - 150				05/14/18 13:10	05/29/18 12:25	100
18O2 PFHxS	64		50 - 150				05/14/18 13:10	05/29/18 12:25	100
13C4 PFOS	59		50 - 150				05/14/18 13:10	05/29/18 12:25	100

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA07-SD1-01**

**Date Collected: 05/06/18 11:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-43**

**Matrix: Solid**

**Percent Solids: 92.9**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.22	U	0.32	0.084	ug/Kg	☼	05/14/18 13:10	06/07/18 00:52	1
Perfluorooctanoic acid (PFOA)	0.22	U	0.32	0.11	ug/Kg	☼	05/14/18 13:10	06/07/18 00:52	1
Perfluorononanoic acid (PFNA)	0.22	U	0.32	0.088	ug/Kg	☼	05/14/18 13:10	06/07/18 00:52	1
Perfluorobutanesulfonic acid (PFBS)	0.19	U	0.43	0.064	ug/Kg	☼	05/14/18 13:10	06/07/18 00:52	1
Perfluorohexanesulfonic acid (PFHxS)	0.22	U	0.32	0.067	ug/Kg	☼	05/14/18 13:10	06/07/18 00:52	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1.5</b>		1.1	0.26	ug/Kg	☼	05/14/18 13:10	06/07/18 00:52	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	68		50 - 150	05/14/18 13:10	06/07/18 00:52	1
13C4-PFHpA	80		50 - 150	05/14/18 13:10	06/07/18 00:52	1
13C4 PFOA	84		50 - 150	05/14/18 13:10	06/07/18 00:52	1
13C5 PFNA	82		50 - 150	05/14/18 13:10	06/07/18 00:52	1
18O2 PFHxS	73		50 - 150	05/14/18 13:10	06/07/18 00:52	1
13C4 PFOS	75		50 - 150	05/14/18 13:10	06/07/18 00:52	1

**Client Sample ID: ER-01**

**Date Collected: 05/01/18 15:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-44**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.88	J	1.7	0.51	ng/L		05/15/18 12:48	05/21/18 14:03	1
Perfluorooctanoic acid (PFOA)	1.7		1.7	0.46	ng/L		05/15/18 12:48	05/21/18 14:03	1
Perfluorononanoic acid (PFNA)	1.3	U	1.7	0.44	ng/L		05/15/18 12:48	05/21/18 14:03	1
Perfluorobutanesulfonic acid (PFBS)	0.40	J M	1.7	0.39	ng/L		05/15/18 12:48	05/21/18 14:03	1
Perfluorohexanesulfonic acid (PFHxS)	1.9		1.7	0.32	ng/L		05/15/18 12:48	05/21/18 14:03	1
Perfluorooctanesulfonic acid (PFOS)	8.7		3.4	0.93	ng/L		05/15/18 12:48	05/21/18 14:03	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	88		50 - 150	05/15/18 12:48	05/21/18 14:03	1
13C4-PFHpA	88		50 - 150	05/15/18 12:48	05/21/18 14:03	1
13C4 PFOA	90		50 - 150	05/15/18 12:48	05/21/18 14:03	1
13C5 PFNA	92		50 - 150	05/15/18 12:48	05/21/18 14:03	1
18O2 PFHxS	88		50 - 150	05/15/18 12:48	05/21/18 14:03	1
13C4 PFOS	82		50 - 150	05/15/18 12:48	05/21/18 14:03	1

**Client Sample ID: FB-01**

**Date Collected: 05/01/18 15:50**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-45**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.2	U	1.7	0.51	ng/L		05/15/18 12:48	05/19/18 06:46	1
Perfluorooctanoic acid (PFOA)	1.2	U	1.7	0.45	ng/L		05/15/18 12:48	05/19/18 06:46	1
Perfluorononanoic acid (PFNA)	1.2	U	1.7	0.43	ng/L		05/15/18 12:48	05/19/18 06:46	1
Perfluorobutanesulfonic acid (PFBS)	0.83	U	1.7	0.38	ng/L		05/15/18 12:48	05/19/18 06:46	1
Perfluorohexanesulfonic acid (PFHxS)	0.61	J	1.7	0.32	ng/L		05/15/18 12:48	05/19/18 06:46	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: FB-01**

**Date Collected: 05/01/18 15:50**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-45**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	1.7	J	3.3	0.91	ng/L		05/15/18 12:48	05/19/18 06:46	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	91		50 - 150				05/15/18 12:48	05/19/18 06:46	1
13C4-PFHpA	101		50 - 150				05/15/18 12:48	05/19/18 06:46	1
13C4 PFOA	94		50 - 150				05/15/18 12:48	05/19/18 06:46	1
13C5 PFNA	105		50 - 150				05/15/18 12:48	05/19/18 06:46	1
18O2 PFHxS	93		50 - 150				05/15/18 12:48	05/19/18 06:46	1
13C4 PFOS	95		50 - 150				05/15/18 12:48	05/19/18 06:46	1

**Client Sample ID: ER-02**

**Date Collected: 05/02/18 09:40**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-46**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.3	U	1.7	0.53	ng/L		05/16/18 14:51	05/28/18 09:29	1
Perfluorooctanoic acid (PFOA)	0.52	J M	1.7	0.47	ng/L		05/16/18 14:51	05/28/18 09:29	1
Perfluorononanoic acid (PFNA)	1.3	U	1.7	0.45	ng/L		05/16/18 14:51	05/28/18 09:29	1
Perfluorobutanesulfonic acid (PFBS)	0.87	U	1.7	0.40	ng/L		05/16/18 14:51	05/28/18 09:29	1
Perfluorohexanesulfonic acid (PFHxS)	1.0	J	1.7	0.33	ng/L		05/16/18 14:51	05/28/18 09:29	1
Perfluorooctanesulfonic acid (PFOS)	4.4	M	3.5	0.96	ng/L		05/16/18 14:51	05/28/18 09:29	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	75		50 - 150				05/16/18 14:51	05/28/18 09:29	1
13C4-PFHpA	71		50 - 150				05/16/18 14:51	05/28/18 09:29	1
13C4 PFOA	80		50 - 150				05/16/18 14:51	05/28/18 09:29	1
13C5 PFNA	84		50 - 150				05/16/18 14:51	05/28/18 09:29	1
18O2 PFHxS	75		50 - 150				05/16/18 14:51	05/28/18 09:29	1
13C4 PFOS	77		50 - 150				05/16/18 14:51	05/28/18 09:29	1

**Client Sample ID: ER-03**

**Date Collected: 05/03/18 10:30**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-47**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.3	U	1.8	0.55	ng/L		05/17/18 14:42	05/25/18 23:59	1
Perfluorooctanoic acid (PFOA)	1.3	U	1.8	0.49	ng/L		05/17/18 14:42	05/25/18 23:59	1
Perfluorononanoic acid (PFNA)	1.3	U	1.8	0.47	ng/L		05/17/18 14:42	05/25/18 23:59	1
Perfluorobutanesulfonic acid (PFBS)	0.90	U	1.8	0.41	ng/L		05/17/18 14:42	05/25/18 23:59	1
Perfluorohexanesulfonic acid (PFHxS)	0.90	U	1.8	0.34	ng/L		05/17/18 14:42	05/25/18 23:59	1
Perfluorooctanesulfonic acid (PFOS)	2.7	U	3.6	0.99	ng/L		05/17/18 14:42	05/25/18 23:59	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	65		50 - 150				05/17/18 14:42	05/25/18 23:59	1
13C4-PFHpA	66		50 - 150				05/17/18 14:42	05/25/18 23:59	1
13C4 PFOA	69		50 - 150				05/17/18 14:42	05/25/18 23:59	1
13C5 PFNA	71		50 - 150				05/17/18 14:42	05/25/18 23:59	1
18O2 PFHxS	63		50 - 150				05/17/18 14:42	05/25/18 23:59	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: ER-03**

**Date Collected: 05/03/18 10:30**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-47**

**Matrix: Water**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<sup>13</sup> C4 PFOS	64		50 - 150	05/17/18 14:42	05/25/18 23:59	1

**Client Sample ID: ER-04**

**Date Collected: 05/04/18 11:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-48**

**Matrix: Water**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.4	U	1.9	0.57	ng/L		05/17/18 14:42	05/26/18 00:15	1
Perfluorooctanoic acid (PFOA)	1.4	U M	1.9	0.50	ng/L		05/17/18 14:42	05/26/18 00:15	1
Perfluorononanoic acid (PFNA)	1.4	U	1.9	0.48	ng/L		05/17/18 14:42	05/26/18 00:15	1
Perfluorobutanesulfonic acid (PFBS)	0.93	U	1.9	0.43	ng/L		05/17/18 14:42	05/26/18 00:15	1
Perfluorohexanesulfonic acid (PFHxS)	0.46	J	1.9	0.35	ng/L		05/17/18 14:42	05/26/18 00:15	1
Perfluorooctanesulfonic acid (PFOS)	1.3	J	3.7	1.0	ng/L		05/17/18 14:42	05/26/18 00:15	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<sup>13</sup> C3-PFBS	70		50 - 150				05/17/18 14:42	05/26/18 00:15	1
<sup>13</sup> C4-PFHpA	70		50 - 150				05/17/18 14:42	05/26/18 00:15	1
<sup>13</sup> C4 PFOA	73		50 - 150				05/17/18 14:42	05/26/18 00:15	1
<sup>13</sup> C5 PFNA	78		50 - 150				05/17/18 14:42	05/26/18 00:15	1
<sup>18</sup> O2 PFHxS	69		50 - 150				05/17/18 14:42	05/26/18 00:15	1
<sup>13</sup> C4 PFOS	69		50 - 150				05/17/18 14:42	05/26/18 00:15	1

**Client Sample ID: MW-572-02-PRL05-01D**

**Date Collected: 05/06/18 10:30**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-49**

**Matrix: Water**

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	24		1.9	0.58	ng/L		05/18/18 10:26	05/28/18 12:37	1
Perfluorooctanoic acid (PFOA)	57		1.9	0.51	ng/L		05/18/18 10:26	05/28/18 12:37	1
Perfluorononanoic acid (PFNA)	3.9		1.9	0.50	ng/L		05/18/18 10:26	05/28/18 12:37	1
Perfluorobutanesulfonic acid (PFBS)	28		1.9	0.44	ng/L		05/18/18 10:26	05/28/18 12:37	1
Perfluorohexanesulfonic acid (PFHxS)	370	E	1.9	0.36	ng/L		05/18/18 10:26	05/28/18 12:37	1
Perfluorooctanesulfonic acid (PFOS)	1200	E	3.8	1.0	ng/L		05/18/18 10:26	05/28/18 12:37	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<sup>13</sup> C3-PFBS	59		50 - 150				05/18/18 10:26	05/28/18 12:37	1
<sup>13</sup> C4-PFHpA	60		50 - 150				05/18/18 10:26	05/28/18 12:37	1
<sup>13</sup> C4 PFOA	65		50 - 150				05/18/18 10:26	05/28/18 12:37	1
<sup>13</sup> C5 PFNA	61		50 - 150				05/18/18 10:26	05/28/18 12:37	1
<sup>18</sup> O2 PFHxS	58		50 - 150				05/18/18 10:26	05/28/18 12:37	1
<sup>13</sup> C4 PFOS	55		50 - 150				05/18/18 10:26	05/28/18 12:37	1

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	24	D	19	5.8	ng/L		05/18/18 10:26	05/29/18 20:54	10
Perfluorooctanoic acid (PFOA)	62	D	19	5.1	ng/L		05/18/18 10:26	05/29/18 20:54	10

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-572-02-PRL05-01D**

**Lab Sample ID: 320-39023-49**

**Date Collected: 05/06/18 10:30**

**Matrix: Water**

**Date Received: 05/08/18 09:00**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	14	U M	19	5.0	ng/L		05/18/18 10:26	05/29/18 20:54	10
Perfluorobutanesulfonic acid (PFBS)	28	D	19	4.4	ng/L		05/18/18 10:26	05/29/18 20:54	10
Perfluorohexanesulfonic acid (PFHxS)	390	D	19	3.6	ng/L		05/18/18 10:26	05/29/18 20:54	10
Perfluorooctanesulfonic acid (PFOS)	1200	D	38	10	ng/L		05/18/18 10:26	05/29/18 20:54	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	53		50 - 150				05/18/18 10:26	05/29/18 20:54	10
13C4-PFHpA	56		50 - 150				05/18/18 10:26	05/29/18 20:54	10
13C4 PFOA	63		50 - 150				05/18/18 10:26	05/29/18 20:54	10
13C5 PFNA	60		50 - 150				05/18/18 10:26	05/29/18 20:54	10
18O2 PFHxS	52		50 - 150				05/18/18 10:26	05/29/18 20:54	10
13C4 PFOS	53		50 - 150				05/18/18 10:26	05/29/18 20:54	10

**Client Sample ID: KLA03-SB-2-01D**

**Lab Sample ID: 320-39023-51**

**Date Collected: 05/02/18 12:15**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 78.6**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.26	U	0.38	0.10	ug/Kg	☼	05/14/18 13:10	06/07/18 01:00	1
Perfluorooctanoic acid (PFOA)	0.16	J	0.38	0.13	ug/Kg	☼	05/14/18 13:10	06/07/18 01:00	1
Perfluorononanoic acid (PFNA)	0.26	U	0.38	0.10	ug/Kg	☼	05/14/18 13:10	06/07/18 01:00	1
Perfluorobutanesulfonic acid (PFBS)	0.098	J	0.51	0.076	ug/Kg	☼	05/14/18 13:10	06/07/18 01:00	1
Perfluorohexanesulfonic acid (PFHxS)	0.71		0.38	0.080	ug/Kg	☼	05/14/18 13:10	06/07/18 01:00	1
Perfluorooctanesulfonic acid (PFOS)	2.7		1.3	0.31	ug/Kg	☼	05/14/18 13:10	06/07/18 01:00	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	79		50 - 150				05/14/18 13:10	06/07/18 01:00	1
13C4-PFHpA	90		50 - 150				05/14/18 13:10	06/07/18 01:00	1
13C4 PFOA	89		50 - 150				05/14/18 13:10	06/07/18 01:00	1
13C5 PFNA	93		50 - 150				05/14/18 13:10	06/07/18 01:00	1
18O2 PFHxS	84		50 - 150				05/14/18 13:10	06/07/18 01:00	1
13C4 PFOS	82		50 - 150				05/14/18 13:10	06/07/18 01:00	1

**Client Sample ID: KLA06-SB-2-02D**

**Lab Sample ID: 320-39023-52**

**Date Collected: 05/01/18 13:50**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 67.8**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.0		0.44	0.12	ug/Kg	☼	05/14/18 13:10	06/07/18 00:21	1
Perfluorooctanoic acid (PFOA)	4.1		0.44	0.15	ug/Kg	☼	05/14/18 13:10	06/07/18 00:21	1
Perfluorononanoic acid (PFNA)	1.8		0.44	0.12	ug/Kg	☼	05/14/18 13:10	06/07/18 00:21	1
Perfluorobutanesulfonic acid (PFBS)	1.4		0.59	0.087	ug/Kg	☼	05/14/18 13:10	06/07/18 00:21	1
Perfluorohexanesulfonic acid (PFHxS)	41	E	0.44	0.091	ug/Kg	☼	05/14/18 13:10	06/07/18 00:21	1

TestAmerica Sacramento



# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA06-SB-2-02D**

**Lab Sample ID: 320-39023-52**

**Date Collected: 05/01/18 13:50**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 67.8**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	690	E	1.5	0.35	ug/Kg	☼	05/14/18 13:10	06/07/18 00:21	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	76		50 - 150				05/14/18 13:10	06/07/18 00:21	1
13C4-PFHpA	86		50 - 150				05/14/18 13:10	06/07/18 00:21	1
13C4 PFOA	83		50 - 150				05/14/18 13:10	06/07/18 00:21	1
13C5 PFNA	47	Q	50 - 150				05/14/18 13:10	06/07/18 00:21	1
18O2 PFHxS	76		50 - 150				05/14/18 13:10	06/07/18 00:21	1
13C4 PFOS	44	Q	50 - 150				05/14/18 13:10	06/07/18 00:21	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.4	J D	4.4	1.2	ug/Kg	☼	05/14/18 13:10	05/29/18 13:36	10
Perfluorooctanoic acid (PFOA)	4.4	D	4.4	1.5	ug/Kg	☼	05/14/18 13:10	05/29/18 13:36	10
Perfluorononanoic acid (PFNA)	1.8	J D	4.4	1.2	ug/Kg	☼	05/14/18 13:10	05/29/18 13:36	10
Perfluorobutanesulfonic acid (PFBS)	1.3	J D	5.9	0.87	ug/Kg	☼	05/14/18 13:10	05/29/18 13:36	10
Perfluorohexanesulfonic acid (PFHxS)	45	D	4.4	0.91	ug/Kg	☼	05/14/18 13:10	05/29/18 13:36	10
Perfluorooctanesulfonic acid (PFOS)	1000	E D	15	3.5	ug/Kg	☼	05/14/18 13:10	05/29/18 13:36	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	66		50 - 150				05/14/18 13:10	05/29/18 13:36	10
13C4-PFHpA	75		50 - 150				05/14/18 13:10	05/29/18 13:36	10
13C4 PFOA	84		50 - 150				05/14/18 13:10	05/29/18 13:36	10
13C5 PFNA	79		50 - 150				05/14/18 13:10	05/29/18 13:36	10
18O2 PFHxS	71		50 - 150				05/14/18 13:10	05/29/18 13:36	10
13C4 PFOS	62		50 - 150				05/14/18 13:10	05/29/18 13:36	10

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	29	U	44	12	ug/Kg	☼	05/14/18 13:10	05/29/18 12:33	100
Perfluorooctanoic acid (PFOA)	29	U M	44	15	ug/Kg	☼	05/14/18 13:10	05/29/18 12:33	100
Perfluorononanoic acid (PFNA)	29	U	44	12	ug/Kg	☼	05/14/18 13:10	05/29/18 12:33	100
Perfluorobutanesulfonic acid (PFBS)	27	U	59	8.7	ug/Kg	☼	05/14/18 13:10	05/29/18 12:33	100
Perfluorohexanesulfonic acid (PFHxS)	46	D	44	9.1	ug/Kg	☼	05/14/18 13:10	05/29/18 12:33	100
Perfluorooctanesulfonic acid (PFOS)	1100	D	150	35	ug/Kg	☼	05/14/18 13:10	05/29/18 12:33	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	51	M	50 - 150				05/14/18 13:10	05/29/18 12:33	100
13C4-PFHpA	64		50 - 150				05/14/18 13:10	05/29/18 12:33	100
13C4 PFOA	84		50 - 150				05/14/18 13:10	05/29/18 12:33	100
13C5 PFNA	74		50 - 150				05/14/18 13:10	05/29/18 12:33	100
18O2 PFHxS	59		50 - 150				05/14/18 13:10	05/29/18 12:33	100
13C4 PFOS	57		50 - 150				05/14/18 13:10	05/29/18 12:33	100

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA02-SB2-02D**

**Lab Sample ID: 320-39023-53**

**Date Collected: 05/04/18 13:25**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 59.1**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5.6		0.50	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 10:36	1
Perfluorooctanoic acid (PFOA)	15		0.50	0.17	ug/Kg	☼	05/14/18 14:03	05/29/18 10:36	1
Perfluorononanoic acid (PFNA)	0.34	J M	0.50	0.14	ug/Kg	☼	05/14/18 14:03	05/29/18 10:36	1
Perfluorobutanesulfonic acid (PFBS)	24		0.67	0.099	ug/Kg	☼	05/14/18 14:03	05/29/18 10:36	1
Perfluorohexanesulfonic acid (PFHxS)	95	E	0.50	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 10:36	1
Perfluorooctanesulfonic acid (PFOS)	380	E	1.7	0.40	ug/Kg	☼	05/14/18 14:03	05/29/18 10:36	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	78		50 - 150				05/14/18 14:03	05/29/18 10:36	1
13C4-PFHpA	78		50 - 150				05/14/18 14:03	05/29/18 10:36	1
13C4 PFOA	84		50 - 150				05/14/18 14:03	05/29/18 10:36	1
13C5 PFNA	71		50 - 150				05/14/18 14:03	05/29/18 10:36	1
18O2 PFHxS	73		50 - 150				05/14/18 14:03	05/29/18 10:36	1
13C4 PFOS	60		50 - 150				05/14/18 14:03	05/29/18 10:36	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5.5	J D	10	2.6	ug/Kg	☼	05/14/18 14:03	05/29/18 17:38	20
Perfluorooctanoic acid (PFOA)	14	D	10	3.3	ug/Kg	☼	05/14/18 14:03	05/29/18 17:38	20
Perfluorononanoic acid (PFNA)	6.7	U M	10	2.7	ug/Kg	☼	05/14/18 14:03	05/29/18 17:38	20
Perfluorobutanesulfonic acid (PFBS)	23	D	13	2.0	ug/Kg	☼	05/14/18 14:03	05/29/18 17:38	20
Perfluorohexanesulfonic acid (PFHxS)	110	D	10	2.1	ug/Kg	☼	05/14/18 14:03	05/29/18 17:38	20
Perfluorooctanesulfonic acid (PFOS)	490	D	33	8.0	ug/Kg	☼	05/14/18 14:03	05/29/18 17:38	20
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	74	M	50 - 150				05/14/18 14:03	05/29/18 17:38	20
13C4-PFHpA	72		50 - 150				05/14/18 14:03	05/29/18 17:38	20
13C4 PFOA	86		50 - 150				05/14/18 14:03	05/29/18 17:38	20
13C5 PFNA	81		50 - 150				05/14/18 14:03	05/29/18 17:38	20
18O2 PFHxS	70		50 - 150				05/14/18 14:03	05/29/18 17:38	20
13C4 PFOS	67		50 - 150				05/14/18 14:03	05/29/18 17:38	20

**Client Sample ID: KLA02-SB1-02D**

**Lab Sample ID: 320-39023-54**

**Date Collected: 05/04/18 13:45**

**Matrix: Solid**

**Date Received: 05/09/18 09:20**

**Percent Solids: 75.9**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.11	J	0.39	0.10	ug/Kg	☼	05/14/18 14:03	05/29/18 10:43	1
Perfluorooctanoic acid (PFOA)	0.25	J M	0.39	0.13	ug/Kg	☼	05/14/18 14:03	05/29/18 10:43	1
Perfluorononanoic acid (PFNA)	0.26	U M	0.39	0.11	ug/Kg	☼	05/14/18 14:03	05/29/18 10:43	1
Perfluorobutanesulfonic acid (PFBS)	0.21	J	0.52	0.077	ug/Kg	☼	05/14/18 14:03	05/29/18 10:43	1
Perfluorohexanesulfonic acid (PFHxS)	1.7		0.39	0.081	ug/Kg	☼	05/14/18 14:03	05/29/18 10:43	1
Perfluorooctanesulfonic acid (PFOS)	12		1.3	0.31	ug/Kg	☼	05/14/18 14:03	05/29/18 10:43	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA02-SB1-02D**

**Date Collected: 05/04/18 13:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-54**

**Matrix: Solid**

**Percent Solids: 75.9**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	73		50 - 150	05/14/18 14:03	05/29/18 10:43	1
13C4-PFHpA	83		50 - 150	05/14/18 14:03	05/29/18 10:43	1
13C4 PFOA	91		50 - 150	05/14/18 14:03	05/29/18 10:43	1
13C5 PFNA	96		50 - 150	05/14/18 14:03	05/29/18 10:43	1
18O2 PFHxS	81		50 - 150	05/14/18 14:03	05/29/18 10:43	1
13C4 PFOS	80		50 - 150	05/14/18 14:03	05/29/18 10:43	1

**Client Sample ID: KLA05-SB1-01D**

**Date Collected: 05/05/18 09:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-55**

**Matrix: Solid**

**Percent Solids: 82.2**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.8		0.37	0.095	ug/Kg	☼	05/14/18 13:10	06/07/18 00:29	1
Perfluorooctanoic acid (PFOA)	12		0.37	0.12	ug/Kg	☼	05/14/18 13:10	06/07/18 00:29	1
Perfluorononanoic acid (PFNA)	2.8		0.37	0.099	ug/Kg	☼	05/14/18 13:10	06/07/18 00:29	1
Perfluorobutanesulfonic acid (PFBS)	3.1		0.49	0.072	ug/Kg	☼	05/14/18 13:10	06/07/18 00:29	1
Perfluorohexanesulfonic acid (PFHxS)	170	E	0.37	0.076	ug/Kg	☼	05/14/18 13:10	06/07/18 00:29	1
Perfluorooctanesulfonic acid (PFOS)	390	E	1.2	0.29	ug/Kg	☼	05/14/18 13:10	06/07/18 00:29	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	77		50 - 150				05/14/18 13:10	06/07/18 00:29	1
13C4-PFHpA	64		50 - 150				05/14/18 13:10	06/07/18 00:29	1
13C4 PFOA	84		50 - 150				05/14/18 13:10	06/07/18 00:29	1
13C5 PFNA	56		50 - 150				05/14/18 13:10	06/07/18 00:29	1
18O2 PFHxS	64		50 - 150				05/14/18 13:10	06/07/18 00:29	1
13C4 PFOS	57		50 - 150				05/14/18 13:10	06/07/18 00:29	1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	24	U	37	9.5	ug/Kg	☼	05/14/18 13:10	05/29/18 12:41	100
Perfluorooctanoic acid (PFOA)	13	J D	37	12	ug/Kg	☼	05/14/18 13:10	05/29/18 12:41	100
Perfluorononanoic acid (PFNA)	24	U	37	9.9	ug/Kg	☼	05/14/18 13:10	05/29/18 12:41	100
Perfluorobutanesulfonic acid (PFBS)	22	U	49	7.2	ug/Kg	☼	05/14/18 13:10	05/29/18 12:41	100
Perfluorohexanesulfonic acid (PFHxS)	300	D	37	7.6	ug/Kg	☼	05/14/18 13:10	05/29/18 12:41	100
Perfluorooctanesulfonic acid (PFOS)	650	D	120	29	ug/Kg	☼	05/14/18 13:10	05/29/18 12:41	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	82	M	50 - 150				05/14/18 13:10	05/29/18 12:41	100
13C4-PFHpA	69		50 - 150				05/14/18 13:10	05/29/18 12:41	100
13C4 PFOA	81		50 - 150				05/14/18 13:10	05/29/18 12:41	100
13C5 PFNA	84		50 - 150				05/14/18 13:10	05/29/18 12:41	100
18O2 PFHxS	61		50 - 150				05/14/18 13:10	05/29/18 12:41	100
13C4 PFOS	62		50 - 150				05/14/18 13:10	05/29/18 12:41	100

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: ER-05**

**Date Collected: 05/06/18 16:00**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-56**

**Matrix: Water**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.4	U	1.9	0.58	ng/L		05/18/18 10:26	05/29/18 21:18	1
<b>Perfluorooctanoic acid (PFOA)</b>	<b>0.74</b>	<b>J M</b>	1.9	0.51	ng/L		05/18/18 10:26	05/29/18 21:18	1
Perfluorononanoic acid (PFNA)	1.4	U	1.9	0.49	ng/L		05/18/18 10:26	05/29/18 21:18	1
<b>Perfluorobutanesulfonic acid (PFBS)</b>	<b>0.52</b>	<b>J</b>	1.9	0.44	ng/L		05/18/18 10:26	05/29/18 21:18	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>3.4</b>		1.9	0.36	ng/L		05/18/18 10:26	05/29/18 21:18	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>13</b>		3.8	1.0	ng/L		05/18/18 10:26	05/29/18 21:18	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	84		50 - 150				05/18/18 10:26	05/29/18 21:18	1
13C4-PFHpA	93		50 - 150				05/18/18 10:26	05/29/18 21:18	1
13C4 PFOA	98		50 - 150				05/18/18 10:26	05/29/18 21:18	1
13C5 PFNA	104		50 - 150				05/18/18 10:26	05/29/18 21:18	1
18O2 PFHxS	87		50 - 150				05/18/18 10:26	05/29/18 21:18	1
13C4 PFOS	91		50 - 150				05/18/18 10:26	05/29/18 21:18	1

**Client Sample ID: IDW-KINGSLEY-SO-LDOS01**

**Date Collected: 05/07/18 09:45**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-57**

**Matrix: Solid**

## Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0040	U	0.010	0.0016	mg/L			05/29/18 15:26	1
2-Butanone (MEK)	0.040	U	0.10	0.018	mg/L			05/29/18 15:26	1
Carbon tetrachloride	0.0040	U	0.010	0.0019	mg/L			05/29/18 15:26	1
Chlorobenzene	0.0040	U	0.010	0.0017	mg/L			05/29/18 15:26	1
Chloroform	0.0040	U	0.010	0.0016	mg/L			05/29/18 15:26	1
1,2-Dichloroethane	0.0040	U	0.010	0.0013	mg/L			05/29/18 15:26	1
1,1-Dichloroethene	0.0080	U	0.010	0.0023	mg/L			05/29/18 15:26	1
Tetrachloroethene	0.0040	U	0.010	0.0020	mg/L			05/29/18 15:26	1
Trichloroethene	0.0040	U	0.010	0.0016	mg/L			05/29/18 15:26	1
Vinyl chloride	0.0020	U	0.010	0.0010	mg/L			05/29/18 15:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		78 - 120					05/29/18 15:26	1
1,2-Dichloroethane-d4 (Surr)	98		64 - 129					05/29/18 15:26	1
4-Bromofluorobenzene (Surr)	90		78 - 121					05/29/18 15:26	1
Dibromofluoromethane (Surr)	103		79 - 119					05/29/18 15:26	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.010	U	0.050	0.0049	mg/L		05/21/18 08:55	05/25/18 21:36	1
3 & 4 Methylphenol	0.0025	U	0.050	0.0013	mg/L		05/21/18 08:55	05/25/18 21:36	1
1,4-Dichlorobenzene	0.020	U	0.020	0.0016	mg/L		05/21/18 08:55	05/25/18 21:36	1
2,4-Dinitrotoluene	0.022	U	0.050	0.0083	mg/L		05/21/18 08:55	05/25/18 21:36	1
Hexachlorobenzene	0.010	U	0.050	0.0033	mg/L		05/21/18 08:55	05/25/18 21:36	1
Hexachlorobutadiene	0.050	U	0.050	0.017	mg/L		05/21/18 08:55	05/25/18 21:36	1
Hexachloroethane	0.022	U	0.050	0.011	mg/L		05/21/18 08:55	05/25/18 21:36	1
Nitrobenzene	0.010	U	0.050	0.0041	mg/L		05/21/18 08:55	05/25/18 21:36	1
Pentachlorophenol	0.20	U	0.25	0.10	mg/L		05/21/18 08:55	05/25/18 21:36	1

TestAmerica Sacramento

# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: IDW-KINGSLEY-SO-LDOS01**

**Lab Sample ID: 320-39023-57**

**Date Collected: 05/07/18 09:45**

**Matrix: Solid**

**Date Received: 05/08/18 09:00**

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	0.022	U	0.10	0.0057	mg/L		05/21/18 08:55	05/25/18 21:36	1
2,4,5-Trichlorophenol	0.0050	U	0.050	0.0022	mg/L		05/21/18 08:55	05/25/18 21:36	1
2,4,6-Trichlorophenol	0.0050	U	0.025	0.0014	mg/L		05/21/18 08:55	05/25/18 21:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	100		49 - 120				05/21/18 08:55	05/25/18 21:36	1
2-Fluorophenol (Surr)	90		50 - 120				05/21/18 08:55	05/25/18 21:36	1
2,4,6-Tribromophenol (Surr)	97		51 - 120				05/21/18 08:55	05/25/18 21:36	1
Nitrobenzene-d5 (Surr)	88		51 - 120				05/21/18 08:55	05/25/18 21:36	1
Phenol-d5 (Surr)	78		47 - 120				05/21/18 08:55	05/25/18 21:36	1
Terphenyl-d14 (Surr)	94		56 - 120				05/21/18 08:55	05/25/18 21:36	1

**Client Sample ID: IDW-KINGSLEY-WA-LDOS01**

**Lab Sample ID: 320-39023-58**

**Date Collected: 05/07/18 09:30**

**Matrix: Water**

**Date Received: 05/08/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0040	U	0.010	0.0016	mg/L			05/21/18 17:50	1
2-Butanone (MEK)	0.040	U	0.10	0.018	mg/L			05/21/18 17:50	1
Carbon tetrachloride	0.0040	U	0.010	0.0019	mg/L			05/21/18 17:50	1
Chlorobenzene	0.0040	U	0.010	0.0017	mg/L			05/21/18 17:50	1
Chloroform	0.0040	U	0.010	0.0016	mg/L			05/21/18 17:50	1
1,2-Dichloroethane	0.0040	U	0.010	0.0013	mg/L			05/21/18 17:50	1
1,1-Dichloroethene	0.0080	U	0.010	0.0023	mg/L			05/21/18 17:50	1
Tetrachloroethene	0.0040	U	0.010	0.0020	mg/L			05/21/18 17:50	1
Trichloroethene	0.0040	U	0.010	0.0016	mg/L			05/21/18 17:50	1
Vinyl chloride	0.0020	U	0.010	0.0010	mg/L			05/21/18 17:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		78 - 120					05/21/18 17:50	1
1,2-Dichloroethane-d4 (Surr)	109		64 - 129					05/21/18 17:50	1
4-Bromofluorobenzene (Surr)	95		78 - 121					05/21/18 17:50	1
Dibromofluoromethane (Surr)	103		79 - 119					05/21/18 17:50	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.010	U	0.050	0.0049	mg/L		05/21/18 08:46	05/25/18 20:46	1
3 & 4 Methylphenol	0.0025	U	0.050	0.0013	mg/L		05/21/18 08:46	05/25/18 20:46	1
1,4-Dichlorobenzene	0.020	U	0.020	0.0016	mg/L		05/21/18 08:46	05/25/18 20:46	1
2,4-Dinitrotoluene	0.022	U	0.050	0.0083	mg/L		05/21/18 08:46	05/25/18 20:46	1
Hexachlorobenzene	0.010	U	0.050	0.0033	mg/L		05/21/18 08:46	05/25/18 20:46	1
Hexachlorobutadiene	0.050	U	0.050	0.017	mg/L		05/21/18 08:46	05/25/18 20:46	1
Hexachloroethane	0.022	U	0.050	0.011	mg/L		05/21/18 08:46	05/25/18 20:46	1
Nitrobenzene	0.010	U	0.050	0.0041	mg/L		05/21/18 08:46	05/25/18 20:46	1
Pentachlorophenol	0.20	U	0.25	0.10	mg/L		05/21/18 08:46	05/25/18 20:46	1
Pyridine	0.022	U	0.10	0.0057	mg/L		05/21/18 08:46	05/25/18 20:46	1
2,4,5-Trichlorophenol	0.0050	U M	0.050	0.0022	mg/L		05/21/18 08:46	05/25/18 20:46	1
2,4,6-Trichlorophenol	0.0050	U M	0.025	0.0014	mg/L		05/21/18 08:46	05/25/18 20:46	1

TestAmerica Sacramento



# Client Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: IDW-KINGSLEY-WA-LDOS01**

**Lab Sample ID: 320-39023-58**

**Date Collected: 05/07/18 09:30**

**Matrix: Water**

**Date Received: 05/08/18 09:00**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	68		49 - 120	05/21/18 08:46	05/25/18 20:46	1
2-Fluorophenol (Surr)	51		50 - 120	05/21/18 08:46	05/25/18 20:46	1
2,4,6-Tribromophenol (Surr)	92		51 - 120	05/21/18 08:46	05/25/18 20:46	1
Nitrobenzene-d5 (Surr)	56		51 - 120	05/21/18 08:46	05/25/18 20:46	1
Phenol-d5 (Surr)	51		47 - 120	05/21/18 08:46	05/25/18 20:46	1
Terphenyl-d14 (Surr)	90		56 - 120	05/21/18 08:46	05/25/18 20:46	1

**Client Sample ID: KLA07-SD1-01D**

**Lab Sample ID: 320-39023-59**

**Date Collected: 05/06/18 11:30**

**Matrix: Solid**

**Date Received: 05/08/18 09:00**

**Percent Solids: 73.7**

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.12	J	0.40	0.10	ug/Kg	☼	05/19/18 09:21	05/31/18 02:30	1
Perfluorooctanoic acid (PFOA)	0.48		0.40	0.13	ug/Kg	☼	05/19/18 09:21	05/31/18 02:30	1
Perfluorononanoic acid (PFNA)	0.27	U	0.40	0.11	ug/Kg	☼	05/19/18 09:21	05/31/18 02:30	1
Perfluorobutanesulfonic acid (PFBS)	0.20	J	0.54	0.079	ug/Kg	☼	05/19/18 09:21	05/31/18 02:30	1
Perfluorohexanesulfonic acid (PFHxS)	2.1		0.40	0.083	ug/Kg	☼	05/19/18 09:21	05/31/18 02:30	1
Perfluorooctanesulfonic acid (PFOS)	15	J1	1.3	0.32	ug/Kg	☼	05/19/18 09:21	05/31/18 02:30	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	73		50 - 150				05/19/18 09:21	05/31/18 02:30	1
13C4-PFHpA	81		50 - 150				05/19/18 09:21	05/31/18 02:30	1
13C4 PFOA	88		50 - 150				05/19/18 09:21	05/31/18 02:30	1
13C5 PFNA	94		50 - 150				05/19/18 09:21	05/31/18 02:30	1
18O2 PFHxS	79		50 - 150				05/19/18 09:21	05/31/18 02:30	1
13C4 PFOS	78		50 - 150				05/19/18 09:21	05/31/18 02:30	1

# Default Detection Limits

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Leach: 1311

Analyte	LOQ	DL	Units	Method
1,1-Dichloroethene	0.010	0.0023	mg/L	8260B
1,1-Dichloroethene	0.010	0.0023	mg/L	8260B
1,2-Dichloroethane	0.010	0.0013	mg/L	8260B
1,2-Dichloroethane	0.010	0.0013	mg/L	8260B
2-Butanone (MEK)	0.10	0.018	mg/L	8260B
2-Butanone (MEK)	0.10	0.018	mg/L	8260B
Benzene	0.010	0.0016	mg/L	8260B
Benzene	0.010	0.0016	mg/L	8260B
Carbon tetrachloride	0.010	0.0019	mg/L	8260B
Carbon tetrachloride	0.010	0.0019	mg/L	8260B
Chlorobenzene	0.010	0.0017	mg/L	8260B
Chlorobenzene	0.010	0.0017	mg/L	8260B
Chloroform	0.010	0.0016	mg/L	8260B
Chloroform	0.010	0.0016	mg/L	8260B
Tetrachloroethene	0.010	0.0020	mg/L	8260B
Tetrachloroethene	0.010	0.0020	mg/L	8260B
Trichloroethene	0.010	0.0016	mg/L	8260B
Trichloroethene	0.010	0.0016	mg/L	8260B
Vinyl chloride	0.010	0.0010	mg/L	8260B
Vinyl chloride	0.010	0.0010	mg/L	8260B

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Prep: 3510C

Leach: 1311

Analyte	LOQ	DL	Units	Method
1,4-Dichlorobenzene	0.020	0.0016	mg/L	8270D
1,4-Dichlorobenzene	0.020	0.0016	mg/L	8270D
2,4,5-Trichlorophenol	0.050	0.0022	mg/L	8270D
2,4,5-Trichlorophenol	0.050	0.0022	mg/L	8270D
2,4,6-Trichlorophenol	0.025	0.0014	mg/L	8270D
2,4,6-Trichlorophenol	0.025	0.0014	mg/L	8270D
2,4-Dinitrotoluene	0.050	0.0083	mg/L	8270D
2,4-Dinitrotoluene	0.050	0.0083	mg/L	8270D
2-Methylphenol	0.050	0.0049	mg/L	8270D
2-Methylphenol	0.050	0.0049	mg/L	8270D
3 & 4 Methylphenol	0.050	0.0013	mg/L	8270D
3 & 4 Methylphenol	0.050	0.0013	mg/L	8270D
Hexachlorobenzene	0.050	0.0033	mg/L	8270D
Hexachlorobenzene	0.050	0.0033	mg/L	8270D
Hexachlorobutadiene	0.050	0.017	mg/L	8270D
Hexachlorobutadiene	0.050	0.017	mg/L	8270D
Hexachloroethane	0.050	0.011	mg/L	8270D
Hexachloroethane	0.050	0.011	mg/L	8270D
Nitrobenzene	0.050	0.0041	mg/L	8270D
Nitrobenzene	0.050	0.0041	mg/L	8270D
Pentachlorophenol	0.25	0.10	mg/L	8270D
Pentachlorophenol	0.25	0.10	mg/L	8270D
Pyridine	0.10	0.0057	mg/L	8270D
Pyridine	0.10	0.0057	mg/L	8270D

TestAmerica Sacramento

## Default Detection Limits

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

### Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Prep: 3535

Analyte	LOQ	DL	Units	Method
Perfluorobutanesulfonic acid (PFBS)	2.0	0.46	ng/L	EPA 537 (Mod)
Perfluoroheptanoic acid (PFHpA)	2.0	0.61	ng/L	EPA 537 (Mod)
Perfluorohexanesulfonic acid (PFHxS)	2.0	0.38	ng/L	EPA 537 (Mod)
Perfluorononanoic acid (PFNA)	2.0	0.52	ng/L	EPA 537 (Mod)
Perfluorooctanesulfonic acid (PFOS)	4.0	1.1	ng/L	EPA 537 (Mod)
Perfluorooctanoic acid (PFOA)	2.0	0.54	ng/L	EPA 537 (Mod)

### Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Prep: SHAKE

Analyte	LOQ	DL	Units	Method
Perfluorobutanesulfonic acid (PFBS)	0.40	0.059	ug/Kg	EPA 537 (Mod)
Perfluoroheptanoic acid (PFHpA)	0.30	0.078	ug/Kg	EPA 537 (Mod)
Perfluorohexanesulfonic acid (PFHxS)	0.30	0.062	ug/Kg	EPA 537 (Mod)
Perfluorononanoic acid (PFNA)	0.30	0.081	ug/Kg	EPA 537 (Mod)
Perfluorooctanesulfonic acid (PFOS)	1.0	0.24	ug/Kg	EPA 537 (Mod)
Perfluorooctanoic acid (PFOA)	0.30	0.10	ug/Kg	EPA 537 (Mod)

# Surrogate Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TOL (78-120)	DCA (64-129)	BFB (78-121)	DBFM (79-119)
320-39023-57	IDW-KINGSLEY-SO-LDOS01	101	98	90	103
LB 280-415139/1-A	Method Blank	92	99	98	114
LCS 280-415139/2-A	Lab Control Sample	105	103	88	103

### Surrogate Legend

TOL = Toluene-d8 (Surr)  
DCA = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
DBFM = Dibromofluoromethane (Surr)

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TOL (78-120)	DCA (64-129)	BFB (78-121)	DBFM (79-119)
320-39023-58	IDW-KINGSLEY-WA-LDOS01	100	109	95	103
LB3 280-415294/1-A	Method Blank	101	103	96	102
LCS 280-415294/2-A	Lab Control Sample	96	104	92	100

### Surrogate Legend

TOL = Toluene-d8 (Surr)  
DCA = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
DBFM = Dibromofluoromethane (Surr)

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (49-120)	2FP (50-120)	TBP (51-120)	NBZ (51-120)	PHL (47-120)	TPHL (56-120)
320-39023-57	IDW-KINGSLEY-SO-LDOS01	100	90	97	88	78	94
320-39023-57 MS	IDW-KINGSLEY-SO-LDOS01	90	81	91	79	70	88
320-39023-57 MSD	IDW-KINGSLEY-SO-LDOS01	95	88	100	85	77	95
LB 280-415138/1-C	Method Blank	79	67	87	66	55	92
LCS 280-415138/2-C	Lab Control Sample	97	85	95	86	75	93

### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol (Surr)  
TBP = 2,4,6-Tribromophenol (Surr)  
NBZ = Nitrobenzene-d5 (Surr)  
PHL = Phenol-d5 (Surr)  
TPHL = Terphenyl-d14 (Surr)

# Surrogate Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)							
		FBP (49-120)	2FP (50-120)	TBP (51-120)	NBZ (51-120)	PHL (47-120)	TPHL (56-120)		
LB3 280-416023/1-A	Method Blank	89	77	89	74	64	95		
LCS 280-416023/2-A	Lab Control Sample	103	92	97	87	80	99		

### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol (Surr)  
TBP = 2,4,6-Tribromophenol (Surr)  
NBZ = Nitrobenzene-d5 (Surr)  
PHL = Phenol-d5 (Surr)  
TPHL = Terphenyl-d14 (Surr)

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)							
		FBP (49-120)	2FP (50-120)	TBP (51-120)	NBZ (51-120)	PHL (47-120)	TPHL (56-120)		
320-39023-58	IDW-KINGSLEY-WA-LDOS01	68	51	92	56	51	90		

### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol (Surr)  
TBP = 2,4,6-Tribromophenol (Surr)  
NBZ = Nitrobenzene-d5 (Surr)  
PHL = Phenol-d5 (Surr)  
TPHL = Terphenyl-d14 (Surr)



# Isotope Dilution Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15**

**Matrix: Solid**

**Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)					
		3C3-PFB: (50-150)	PFHpA (50-150)	PFOA (50-150)	PFNA (50-150)	PFHxS (50-150)	PFOS (50-150)
320-39023-9	KLA-01-SB1-01	74	82	86	60	78	48 Q
320-39023-9 - DL	KLA-01-SB1-01	79 M	89	90	90	82	74
320-39023-10	KLA-01-SB1-02	69	83	82	67	75	54
320-39023-10 - DL	KLA-01-SB1-02	71 M	78	89	79	70	63
320-39023-11	KLA-01-SB2-01	68	84	88	92	71	72
320-39023-12	KLA-01-SB2-02	71	83	84	87	76	74
320-39023-13	KLA-01-SB3-01	67	82	84	84	73	68
320-39023-14	KLA-01-SB3-02	67	80	80	82	70	64
320-39023-15	KLA02-SB1-01	81	93	93	100	88	86
320-39023-15 MS	KLA02-SB1-01	77	83	87	91	82	80
320-39023-15 MSD	KLA02-SB1-01	80	90	95	96	83	85
320-39023-16	KLA02-SB1-02	71	81	84	85	77	76
320-39023-17	KLA02-SB2-01	78	85	94	66	78	55
320-39023-17 - DL	KLA02-SB2-01	94 M	72	87	84	66	68
320-39023-18	KLA02-SB2-02	82	78	89	71	72	60
320-39023-18 - DL	KLA02-SB2-02	71	78	91	86	82	71
320-39023-19	KLA02-SB3-01	78	86	92	85	82	68
320-39023-19 - DL	KLA02-SB3-01	77 M	84	91	100	75	74
320-39023-20	KLA02-SB3-02	75	80	90	92	80	76
320-39023-21	KLA03-SB1-01	68	83	85	83	71	69
320-39023-22	KLA03-SB1-02	70	83	87	91	74	71
320-39023-23	KLA03-SB2-01	69	83	83	81	73	72
320-39023-24	KLA03-SB2-02	68	83	82	78	75	70
320-39023-25	KLA03-SB3-01	78	85	85	87	83	79
320-39023-26	KLA03-SB3-02	77	85	84	83	79	76
320-39023-27	KLA04-SB1-01	87	98	88	37 Q	87	30 Q
320-39023-27 - DL	KLA04-SB1-01	99 M	77	93	79	67	70
320-39023-28	KLA04-SB1-02	95	85	84	34 Q	78	26 Q
320-39023-28 - DL2	KLA04-SB1-02	96 M	80	95	73	76	63
320-39023-28 - DL	KLA04-SB1-02	70 M	84	84	76	71	59
320-39023-29	KLA04-SB2-01	96	88	83	25 Q	86	18 Q
320-39023-29 - DL	KLA04-SB2-01	111 M	74	80	68	64	58
320-39023-30	KLA04-SB2-02	125	69	82	55	65	39 Q
320-39023-30 - DL	KLA04-SB2-02	133 M	70	95	78	78	61
320-39023-31	KLA04-SB3-01	86	88	84	28 Q	77	20 Q
320-39023-31 - DL2	KLA04-SB3-01	71 M	74	78	73	53	57
320-39023-31 - DL	KLA04-SB3-01	54	75	82	59	69	47 Q
320-39023-32	KLA04-SB3-02	109	77	87	51	65	39 Q
320-39023-32 - DL2	KLA04-SB3-02	72 M	62	89	78	69	64
320-39023-32 - DL	KLA04-SB3-02	88	84	87	78	76	63
320-39023-33	KLA05-SB1-01	72	81	90	74	68	68
320-39023-33 - DL	KLA05-SB1-01	54	83	97	90	75	69
320-39023-34	KLA05-SB1-02	68	81	88	88	70	72
320-39023-35	KLA05-SB2-01	69	85	92	89	71	73
320-39023-35 - DL	KLA05-SB2-01	59	82	86	89	70	69
320-39023-36	KLA05-SB2-02	70	74	85	87	74	72
320-39023-36 - DL	KLA05-SB2-02	72	77	92	85	72	70
320-39023-37	KLA05-SB3-01	122	66	87	19 Q	46 Q	13 Q
320-39023-37 - DL	KLA05-SB3-01	60 M	80	82	68	75	53

TestAmerica Sacramento

# Isotope Dilution Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)					
		3C3-PFB:	PFHpA	PFOA	PFNA	PFHxS	PFOS
		(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
320-39023-38	KLA05-SB3-02	73	81	87	50	73	40 Q
320-39023-38 - DL	KLA05-SB3-02	78 M	81	99	98	79	70
320-39023-39 - DL	KLA06-SB1-01	67	76	82	79	71	68
320-39023-39	KLA06-SB1-01	72	77	79	62	73	62
320-39023-40 - DL	KLA06-SB1-02	69	76	81	78	69	68
320-39023-40	KLA06-SB1-02	68	81	76	70	72	68
320-39023-41 - DL	KLA06-SB2-01	67	80	85	77	74	64
320-39023-41 - DL2	KLA06-SB2-01	68 M	66	81	74	71	60
320-39023-41	KLA06-SB2-01	82	82	84	54	75	54
320-39023-41 MS - DL2	KLA06-SB2-01	44 M Q	71	77	73	65	66
320-39023-41 MS - DL	KLA06-SB2-01	71	79	81	74	73	64
320-39023-41 MS	KLA06-SB2-01	88	82	85	48 Q	69	46 Q
320-39023-41 MSD - DL2	KLA06-SB2-01	76 M	76	81	75	66	71
320-39023-41 MSD - DL	KLA06-SB2-01	62	80	82	73	72	61
320-39023-41 MSD	KLA06-SB2-01	86	82	83	48 Q	63	45 Q
320-39023-42 - DL2	KLA06-SB2-02	61 M	72	78	78	64	59
320-39023-42 - DL	KLA06-SB2-02	73	78	90	75	72	61
320-39023-42	KLA06-SB2-02	81	83	83	44 Q	75	40 Q
320-39023-43	KLA07-SD1-01	68	80	84	82	73	75
320-39023-51	KLA03-SB-2-01D	79	90	89	93	84	82
320-39023-52 - DL2	KLA06-SB-2-02D	51 M	64	84	74	59	57
320-39023-52 - DL	KLA06-SB-2-02D	66	75	84	79	71	62
320-39023-52	KLA06-SB-2-02D	76	86	83	47 Q	76	44 Q
320-39023-53	KLA02-SB2-02D	78	78	84	71	73	60
320-39023-53 - DL	KLA02-SB2-02D	74 M	72	86	81	70	67
320-39023-54	KLA02-SB1-02D	73	83	91	96	81	80
320-39023-55 - DL	KLA05-SB1-01D	82 M	69	81	84	61	62
320-39023-55	KLA05-SB1-01D	77	64	84	56	64	57
320-39023-59	KLA07-SD1-01D	73	81	88	94	79	78
320-39023-59 MS	KLA07-SD1-01D	71	79	88	95	76	77
320-39023-59 MSD	KLA07-SD1-01D	72	81	91	94	77	78
LCS 320-223091/2-A	Lab Control Sample	80	89	91	94	86	80
LCS 320-223092/2-A	Lab Control Sample	71	73	79	81	73	71
LCS 320-224254/2-A	Lab Control Sample	81	88	91	91	85	83
MB 320-223091/1-A	Method Blank	81	85	90	91	84	80
MB 320-223092/1-A	Method Blank	68	71	78	75	71	70
MB 320-224254/1-A	Method Blank	77	85	91	93	85	84

### Surrogate Legend

<sup>13</sup>C3-PFBS = <sup>13</sup>C3-PFBS

PFHpA = <sup>13</sup>C4-PFHpA

PFOA = <sup>13</sup>C4 PFOA

PFNA = <sup>13</sup>C5 PFNA

PFHxS = <sup>18</sup>O2 PFHxS

PFOS = <sup>13</sup>C4 PFOS

# Isotope Dilution Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)					
		3C3-PFBs (50-150)	PFHpA (50-150)	PFOA (50-150)	PFNA (50-150)	PFHxS (50-150)	PFOS (50-150)
320-39023-1	MW-KLA01-01-01	75	79	87	81	80	74
320-39023-1 - DL	MW-KLA01-01-01	72	77	83	77	72	67
320-39023-2	MW-KLA02-01-01	321 Q	44 Q	65	40 Q	77	28 Q
320-39023-2 - DL	MW-KLA02-01-01	176 Q	54	68	53	96	44 Q
320-39023-3	MW-KLA03-01-01	75	69	85	62	66	54
320-39023-3 - DL	MW-KLA03-01-01	68 M	72	83	77	72	75
320-39023-4 - DL	MW-KLA04-01-01	63	65	75	67	62	62
320-39023-4	MW-KLA04-01-01	71	74	80	79	69	69
320-39023-5	MW-573-03-PRL05-01	136	46 Q	77	58	54	48 Q
320-39023-5 - DL	MW-573-03-PRL05-01	99 M	64	73	69	73	66
320-39023-5 MS	MW-573-03-PRL05-01	146	48 Q	80	62	55	48 Q
320-39023-5 MS - DL	MW-573-03-PRL05-01	107 M	64	86	71	82	61
320-39023-5 MSD	MW-573-03-PRL05-01	134	45 Q	76	58	54	45 Q
320-39023-5 MSD - DL	MW-573-03-PRL05-01	107 M	65	76	72	76	64
320-39023-6	MW-572-02-PRL05-01	85	83	89	82	81	74
320-39023-6 - DL	MW-572-02-PRL05-01	69 M	79	92	84	77	75
320-39023-7	MW-KLA06-01-01	233 Q	37 Q	52	50	54	36 Q
320-39023-7 - DL2	MW-KLA06-01-01	145 M	53	58	51	76	46 Q
320-39023-8	KLA08-SW1-01	76	76	95	103	93	101
320-39023-44	ER-01	88	88	90	92	88	82
320-39023-45	FB-01	91	101	94	105	93	95
320-39023-46	ER-02	75	71	80	84	75	77
320-39023-47	ER-03	65	66	69	71	63	64
320-39023-48	ER-04	70	70	73	78	69	69
320-39023-49	MW-572-02-PRL05-01D	59	60	65	61	58	55
320-39023-49 - DL	MW-572-02-PRL05-01D	53	56	63	60	52	53
320-39023-56	ER-05	84	93	98	104	87	91
LCS 320-223346/2-A	Lab Control Sample	82	94	93	95	89	83
LCS 320-223615/2-A	Lab Control Sample	78	85	90	90	80	86
LCS 320-223901/2-A	Lab Control Sample	81	83	84	84	79	79
LCS 320-224065/2-A	Lab Control Sample	66	70	74	72	70	66
LCS 320-224509/2-A	Lab Control Sample	80	85	88	91	82	83
LCSD 320-224509/3-A	Lab Control Sample Dup	72	76	81	82	77	76
MB 320-223346/1-A	Method Blank	84	94	96	96	87	86
MB 320-223615/1-A	Method Blank	80	84	93	94	85	81
MB 320-223901/1-A	Method Blank	85	86	88	92	83	82
MB 320-224065/1-A	Method Blank	88	93	103	106	94	92
MB 320-224509/1-A	Method Blank	75	77	82	83	77	76

### Surrogate Legend

13C3-PFBS = 13C3-PFBS  
PFHpA = 13C4-PFHpA  
PFOA = 13C4 PFOA  
PFNA = 13C5 PFNA  
PFHxS = 18O2 PFHxS  
PFOS = 13C4 PFOS

# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: LB3 280-415294/1-A

Matrix: Water

Analysis Batch: 415557

Client Sample ID: Method Blank

Prep Type: TCLP

Analyte	LB3 Result	LB3 Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0040	U	0.010	0.0016	mg/L			05/21/18 16:07	1
2-Butanone (MEK)	0.040	U	0.10	0.018	mg/L			05/21/18 16:07	1
Carbon tetrachloride	0.0040	U	0.010	0.0019	mg/L			05/21/18 16:07	1
Chlorobenzene	0.0040	U	0.010	0.0017	mg/L			05/21/18 16:07	1
Chloroform	0.0040	U	0.010	0.0016	mg/L			05/21/18 16:07	1
1,2-Dichloroethane	0.0040	U	0.010	0.0013	mg/L			05/21/18 16:07	1
1,1-Dichloroethene	0.0080	U	0.010	0.0023	mg/L			05/21/18 16:07	1
Tetrachloroethene	0.0040	U	0.010	0.0020	mg/L			05/21/18 16:07	1
Trichloroethene	0.0040	U	0.010	0.0016	mg/L			05/21/18 16:07	1
Vinyl chloride	0.0020	U	0.010	0.0010	mg/L			05/21/18 16:07	1

Surrogate	LB3 %Recovery	LB3 Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		78 - 120		05/21/18 16:07	1
1,2-Dichloroethane-d4 (Surr)	103		64 - 129		05/21/18 16:07	1
4-Bromofluorobenzene (Surr)	96		78 - 121		05/21/18 16:07	1
Dibromofluoromethane (Surr)	102		79 - 119		05/21/18 16:07	1

Lab Sample ID: LCS 280-415294/2-A

Matrix: Water

Analysis Batch: 415557

Client Sample ID: Lab Control Sample

Prep Type: TCLP

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0498		mg/L		100	74 - 135
2-Butanone (MEK)	0.200	0.226		mg/L		113	44 - 150
Carbon tetrachloride	0.0500	0.0493		mg/L		99	67 - 135
Chlorobenzene	0.0500	0.0457		mg/L		91	76 - 135
Chloroform	0.0500	0.0518		mg/L		104	76 - 120
1,2-Dichloroethane	0.0500	0.0549		mg/L		110	70 - 135
1,1-Dichloroethene	0.0500	0.0481		mg/L		96	71 - 136
Tetrachloroethene	0.0500	0.0428		mg/L		86	70 - 135
Trichloroethene	0.0500	0.0471		mg/L		94	73 - 135
Vinyl chloride	0.0500	0.0436		mg/L		87	40 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	96		78 - 120
1,2-Dichloroethane-d4 (Surr)	104		64 - 129
4-Bromofluorobenzene (Surr)	92		78 - 121
Dibromofluoromethane (Surr)	100		79 - 119

Lab Sample ID: LB 280-415139/1-A

Matrix: Solid

Analysis Batch: 416517

Client Sample ID: Method Blank

Prep Type: TCLP

Analyte	LB Result	LB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0040	U	0.010	0.0016	mg/L			05/29/18 09:40	1
2-Butanone (MEK)	0.040	U	0.10	0.018	mg/L			05/29/18 09:40	1
Carbon tetrachloride	0.0040	U	0.010	0.0019	mg/L			05/29/18 09:40	1

TestAmerica Sacramento

# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB 280-415139/1-A

Matrix: Solid

Analysis Batch: 416517

Client Sample ID: Method Blank

Prep Type: TCLP

Analyte	LB Result	LB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	0.0040	U	0.010	0.0017	mg/L			05/29/18 09:40	1
Chloroform	0.0040	U	0.010	0.0016	mg/L			05/29/18 09:40	1
1,2-Dichloroethane	0.0040	U	0.010	0.0013	mg/L			05/29/18 09:40	1
1,1-Dichloroethene	0.0080	U	0.010	0.0023	mg/L			05/29/18 09:40	1
Tetrachloroethene	0.0040	U	0.010	0.0020	mg/L			05/29/18 09:40	1
Trichloroethene	0.0040	U	0.010	0.0016	mg/L			05/29/18 09:40	1
Vinyl chloride	0.0020	U	0.010	0.0010	mg/L			05/29/18 09:40	1

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	92		78 - 120		05/29/18 09:40	1
1,2-Dichloroethane-d4 (Surr)	99		64 - 129		05/29/18 09:40	1
4-Bromofluorobenzene (Surr)	98		78 - 121		05/29/18 09:40	1
Dibromofluoromethane (Surr)	114		79 - 119		05/29/18 09:40	1

Lab Sample ID: LCS 280-415139/2-A

Matrix: Solid

Analysis Batch: 416517

Client Sample ID: Lab Control Sample

Prep Type: TCLP

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0524		mg/L		105	74 - 135
2-Butanone (MEK)	0.200	0.181		mg/L		91	44 - 150
Carbon tetrachloride	0.0500	0.0500		mg/L		100	67 - 135
Chlorobenzene	0.0500	0.0476		mg/L		95	76 - 135
Chloroform	0.0500	0.0532		mg/L		106	76 - 120
1,2-Dichloroethane	0.0500	0.0505		mg/L		101	70 - 135
1,1-Dichloroethene	0.0500	0.0558		mg/L		112	71 - 136
Tetrachloroethene	0.0500	0.0479		mg/L		96	70 - 135
Trichloroethene	0.0500	0.0500		mg/L		100	73 - 135
Vinyl chloride	0.0500	0.0459		mg/L		92	40 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	105		78 - 120
1,2-Dichloroethane-d4 (Surr)	103		64 - 129
4-Bromofluorobenzene (Surr)	88		78 - 121
Dibromofluoromethane (Surr)	103		79 - 119

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: LB3 280-416023/1-A

Matrix: Water

Analysis Batch: 416357

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 416023

Analyte	LB3 Result	LB3 Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.010	U	0.050	0.0049	mg/L		05/21/18 08:46	05/25/18 17:01	1
3 & 4 Methylphenol	0.0025	U	0.050	0.0013	mg/L		05/21/18 08:46	05/25/18 17:01	1
1,4-Dichlorobenzene	0.020	U	0.020	0.0016	mg/L		05/21/18 08:46	05/25/18 17:01	1
2,4-Dinitrotoluene	0.022	U	0.050	0.0083	mg/L		05/21/18 08:46	05/25/18 17:01	1

TestAmerica Sacramento



# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB3 280-416023/1-A

Matrix: Water

Analysis Batch: 416357

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 416023

Analyte	LB3 Result	LB3 Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	0.010	U	0.050	0.0033	mg/L		05/21/18 08:46	05/25/18 17:01	1
Hexachlorobutadiene	0.050	U	0.050	0.017	mg/L		05/21/18 08:46	05/25/18 17:01	1
Hexachloroethane	0.022	U	0.050	0.011	mg/L		05/21/18 08:46	05/25/18 17:01	1
Nitrobenzene	0.010	U	0.050	0.0041	mg/L		05/21/18 08:46	05/25/18 17:01	1
Pentachlorophenol	0.20	U	0.25	0.10	mg/L		05/21/18 08:46	05/25/18 17:01	1
Pyridine	0.022	U	0.10	0.0057	mg/L		05/21/18 08:46	05/25/18 17:01	1
2,4,5-Trichlorophenol	0.0050	U	0.050	0.0022	mg/L		05/21/18 08:46	05/25/18 17:01	1
2,4,6-Trichlorophenol	0.0050	U	0.025	0.0014	mg/L		05/21/18 08:46	05/25/18 17:01	1

Surrogate	LB3 %Recovery	LB3 Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	89		49 - 120	05/21/18 08:46	05/25/18 17:01	1
2-Fluorophenol (Surr)	77		50 - 120	05/21/18 08:46	05/25/18 17:01	1
2,4,6-Tribromophenol (Surr)	89		51 - 120	05/21/18 08:46	05/25/18 17:01	1
Nitrobenzene-d5 (Surr)	74		51 - 120	05/21/18 08:46	05/25/18 17:01	1
Phenol-d5 (Surr)	64		47 - 120	05/21/18 08:46	05/25/18 17:01	1
Terphenyl-d14 (Surr)	95		56 - 120	05/21/18 08:46	05/25/18 17:01	1

Lab Sample ID: LCS 280-416023/2-A

Matrix: Water

Analysis Batch: 416357

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 416023

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2-Methylphenol	0.250	0.232		mg/L		93	45 - 120
3 & 4 Methylphenol	0.500	0.466		mg/L		93	44 - 120
1,4-Dichlorobenzene	0.250	0.237		mg/L		95	36 - 120
2,4-Dinitrotoluene	0.100	0.0686		mg/L		69	36 - 120
Hexachlorobenzene	0.100	0.0917		mg/L		92	52 - 120
Hexachlorobutadiene	0.250	0.235		mg/L		94	35 - 120
Hexachloroethane	0.250	0.220		mg/L		88	35 - 120
Nitrobenzene	0.250	0.231		mg/L		93	50 - 120
Pentachlorophenol	0.500	0.409		mg/L		82	39 - 120
Pyridine	0.250	0.0593	J	mg/L		24	10 - 121
2,4,5-Trichlorophenol	0.250	0.277		mg/L		111	46 - 120
2,4,6-Trichlorophenol	0.250	0.278		mg/L		111	43 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	103		49 - 120
2-Fluorophenol (Surr)	92		50 - 120
2,4,6-Tribromophenol (Surr)	97		51 - 120
Nitrobenzene-d5 (Surr)	87		51 - 120
Phenol-d5 (Surr)	80		47 - 120
Terphenyl-d14 (Surr)	99		56 - 120

# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB 280-415138/1-C

Matrix: Solid

Analysis Batch: 416357

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 415600

Analyte	LB Result	LB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.010	U	0.050	0.0049	mg/L		05/21/18 08:55	05/25/18 17:51	1
3 & 4 Methylphenol	0.0025	U	0.050	0.0013	mg/L		05/21/18 08:55	05/25/18 17:51	1
1,4-Dichlorobenzene	0.020	U	0.020	0.0016	mg/L		05/21/18 08:55	05/25/18 17:51	1
2,4-Dinitrotoluene	0.022	U	0.050	0.0083	mg/L		05/21/18 08:55	05/25/18 17:51	1
Hexachlorobenzene	0.010	U	0.050	0.0033	mg/L		05/21/18 08:55	05/25/18 17:51	1
Hexachlorobutadiene	0.050	U	0.050	0.017	mg/L		05/21/18 08:55	05/25/18 17:51	1
Hexachloroethane	0.022	U	0.050	0.011	mg/L		05/21/18 08:55	05/25/18 17:51	1
Nitrobenzene	0.010	U	0.050	0.0041	mg/L		05/21/18 08:55	05/25/18 17:51	1
Pentachlorophenol	0.20	U	0.25	0.10	mg/L		05/21/18 08:55	05/25/18 17:51	1
Pyridine	0.022	U	0.10	0.0057	mg/L		05/21/18 08:55	05/25/18 17:51	1
2,4,5-Trichlorophenol	0.0050	U	0.050	0.0022	mg/L		05/21/18 08:55	05/25/18 17:51	1
2,4,6-Trichlorophenol	0.0050	U	0.025	0.0014	mg/L		05/21/18 08:55	05/25/18 17:51	1

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	79		49 - 120	05/21/18 08:55	05/25/18 17:51	1
2-Fluorophenol (Surr)	67		50 - 120	05/21/18 08:55	05/25/18 17:51	1
2,4,6-Tribromophenol (Surr)	87		51 - 120	05/21/18 08:55	05/25/18 17:51	1
Nitrobenzene-d5 (Surr)	66		51 - 120	05/21/18 08:55	05/25/18 17:51	1
Phenol-d5 (Surr)	55		47 - 120	05/21/18 08:55	05/25/18 17:51	1
Terphenyl-d14 (Surr)	92		56 - 120	05/21/18 08:55	05/25/18 17:51	1

Lab Sample ID: LCS 280-415138/2-C

Matrix: Solid

Analysis Batch: 416357

Client Sample ID: Lab Control Sample

Prep Type: TCLP

Prep Batch: 415600

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2-Methylphenol	0.250	0.217		mg/L		87	45 - 120
3 & 4 Methylphenol	0.500	0.427		mg/L		85	44 - 120
1,4-Dichlorobenzene	0.250	0.212		mg/L		85	36 - 120
2,4-Dinitrotoluene	0.100	0.0672		mg/L		67	36 - 120
Hexachlorobenzene	0.100	0.0902		mg/L		90	52 - 120
Hexachlorobutadiene	0.250	0.216		mg/L		86	35 - 120
Hexachloroethane	0.250	0.200		mg/L		80	35 - 120
Nitrobenzene	0.250	0.224		mg/L		90	50 - 120
Pentachlorophenol	0.500	0.361		mg/L		72	39 - 120
Pyridine	0.250	0.118		mg/L		47	10 - 121
2,4,5-Trichlorophenol	0.250	0.258		mg/L		103	46 - 120
2,4,6-Trichlorophenol	0.250	0.263		mg/L		105	43 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	97		49 - 120
2-Fluorophenol (Surr)	85		50 - 120
2,4,6-Tribromophenol (Surr)	95		51 - 120
Nitrobenzene-d5 (Surr)	86		51 - 120
Phenol-d5 (Surr)	75		47 - 120
Terphenyl-d14 (Surr)	93		56 - 120

TestAmerica Sacramento

# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 320-39023-57 MS

Matrix: Solid

Analysis Batch: 416357

Client Sample ID: IDW-KINGSLEY-SO-LDOS01

Prep Type: TCLP

Prep Batch: 415600

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylphenol	0.010	U	0.250	0.217		mg/L		87	45 - 120
3 & 4 Methylphenol	0.0025	U	0.500	0.422		mg/L		84	44 - 120
1,4-Dichlorobenzene	0.020	U	0.250	0.213		mg/L		85	36 - 120
2,4-Dinitrotoluene	0.022	U	0.100	0.0731		mg/L		73	36 - 120
Hexachlorobenzene	0.010	U	0.100	0.0841		mg/L		84	52 - 120
Hexachlorobutadiene	0.050	U	0.250	0.215		mg/L		86	35 - 120
Hexachloroethane	0.022	U	0.250	0.198		mg/L		79	35 - 120
Nitrobenzene	0.010	U	0.250	0.215		mg/L		86	50 - 120
Pentachlorophenol	0.20	U	0.500	0.368		mg/L		74	39 - 120
Pyridine	0.022	U	0.250	0.142		mg/L		57	10 - 121
2,4,5-Trichlorophenol	0.0050	U	0.250	0.244		mg/L		97	46 - 120
2,4,6-Trichlorophenol	0.0050	U	0.250	0.252		mg/L		101	43 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	90		49 - 120
2-Fluorophenol (Surr)	81		50 - 120
2,4,6-Tribromophenol (Surr)	91		51 - 120
Nitrobenzene-d5 (Surr)	79		51 - 120
Phenol-d5 (Surr)	70		47 - 120
Terphenyl-d14 (Surr)	88		56 - 120

Lab Sample ID: 320-39023-57 MSD

Matrix: Solid

Analysis Batch: 416357

Client Sample ID: IDW-KINGSLEY-SO-LDOS01

Prep Type: TCLP

Prep Batch: 415600

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Methylphenol	0.010	U	0.250	0.245		mg/L		98	45 - 120	12	30
3 & 4 Methylphenol	0.0025	U	0.500	0.478		mg/L		96	44 - 120	12	30
1,4-Dichlorobenzene	0.020	U	0.250	0.235		mg/L		94	36 - 120	10	30
2,4-Dinitrotoluene	0.022	U	0.100	0.0818		mg/L		82	36 - 120	11	30
Hexachlorobenzene	0.010	U	0.100	0.0978		mg/L		98	52 - 120	15	30
Hexachlorobutadiene	0.050	U	0.250	0.226		mg/L		90	35 - 120	5	30
Hexachloroethane	0.022	U	0.250	0.218		mg/L		87	35 - 120	9	30
Nitrobenzene	0.010	U	0.250	0.230		mg/L		92	50 - 120	6	30
Pentachlorophenol	0.20	U	0.500	0.388		mg/L		78	39 - 120	5	30
Pyridine	0.022	U	0.250	0.136		mg/L		55	10 - 121	4	30
2,4,5-Trichlorophenol	0.0050	U	0.250	0.267		mg/L		107	46 - 120	9	30
2,4,6-Trichlorophenol	0.0050	U	0.250	0.274		mg/L		109	43 - 120	8	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	95		49 - 120
2-Fluorophenol (Surr)	88		50 - 120
2,4,6-Tribromophenol (Surr)	100		51 - 120
Nitrobenzene-d5 (Surr)	85		51 - 120
Phenol-d5 (Surr)	77		47 - 120
Terphenyl-d14 (Surr)	95		56 - 120

TestAmerica Sacramento

# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15

Lab Sample ID: MB 320-223091/1-A

Matrix: Solid

Analysis Batch: 225894

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 223091

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.20	U	0.30	0.078	ug/Kg		05/14/18 13:10	05/29/18 03:17	1
Perfluorooctanoic acid (PFOA)	0.20	U	0.30	0.10	ug/Kg		05/14/18 13:10	05/29/18 03:17	1
Perfluorononanoic acid (PFNA)	0.20	U	0.30	0.081	ug/Kg		05/14/18 13:10	05/29/18 03:17	1
Perfluorobutanesulfonic acid (PFBS)	0.18	U	0.40	0.059	ug/Kg		05/14/18 13:10	05/29/18 03:17	1
Perfluorohexanesulfonic acid (PFHxS)	0.20	U	0.30	0.062	ug/Kg		05/14/18 13:10	05/29/18 03:17	1
Perfluorooctanesulfonic acid (PFOS)	0.50	U	1.0	0.24	ug/Kg		05/14/18 13:10	05/29/18 03:17	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	81		50 - 150	05/14/18 13:10	05/29/18 03:17	1
13C4-PFHpA	85		50 - 150	05/14/18 13:10	05/29/18 03:17	1
13C4 PFOA	90		50 - 150	05/14/18 13:10	05/29/18 03:17	1
13C5 PFNA	91		50 - 150	05/14/18 13:10	05/29/18 03:17	1
18O2 PFHxS	84		50 - 150	05/14/18 13:10	05/29/18 03:17	1
13C4 PFOS	80		50 - 150	05/14/18 13:10	05/29/18 03:17	1

Lab Sample ID: LCS 320-223091/2-A

Matrix: Solid

Analysis Batch: 225894

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 223091

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluoroheptanoic acid (PFHpA)	2.00	2.17		ug/Kg		108	76 - 124
Perfluorooctanoic acid (PFOA)	2.00	2.00		ug/Kg		100	76 - 121
Perfluorononanoic acid (PFNA)	2.00	2.10		ug/Kg		105	74 - 126
Perfluorobutanesulfonic acid (PFBS)	1.77	1.90		ug/Kg		108	73 - 142
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.78		ug/Kg		98	75 - 121
Perfluorooctanesulfonic acid (PFOS)	1.86	1.95		ug/Kg		105	69 - 131

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3-PFBS	80		50 - 150
13C4-PFHpA	89		50 - 150
13C4 PFOA	91		50 - 150
13C5 PFNA	94		50 - 150
18O2 PFHxS	86		50 - 150
13C4 PFOS	80		50 - 150

Lab Sample ID: 320-39023-41 MS

Matrix: Solid

Analysis Batch: 227681

Client Sample ID: KLA06-SB2-01

Prep Type: Total/NA

Prep Batch: 223091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Perfluoroheptanoic acid (PFHpA)	1.2	J1	3.15	5.16	J1	ug/Kg	☼	125	76 - 124
Perfluorooctanoic acid (PFOA)	6.7	J1	3.15	11.5	J1	ug/Kg	☼	151	76 - 121
Perfluorononanoic acid (PFNA)	1.6		3.15	5.14		ug/Kg	☼	113	74 - 126
Perfluorobutanesulfonic acid (PFBS)	0.99		2.79	4.20		ug/Kg	☼	115	73 - 142
Perfluorohexanesulfonic acid (PFHxS)	42	E J1	2.87	56.3	E 4	ug/Kg	☼	512	75 - 121

TestAmerica Sacramento

# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Lab Sample ID: 320-39023-41 MS

Matrix: Solid

Analysis Batch: 227681

Client Sample ID: KLA06-SB2-01

Prep Type: Total/NA

Prep Batch: 223091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Perfluorooctanesulfonic acid (PFOS)	580	E J1	2.92	813	E 4	ug/Kg	☼	7925	69 - 131
Isotope Dilution	MS %Recovery	MS Qualifier	Limits						
13C3-PFBS	88		50 - 150						
13C4-PFHpA	82		50 - 150						
13C4 PFOA	85		50 - 150						
13C5 PFNA	48	Q	50 - 150						
18O2 PFHxS	69		50 - 150						
13C4 PFOS	46	Q	50 - 150						

Lab Sample ID: 320-39023-41 MSD

Matrix: Solid

Analysis Batch: 227681

Client Sample ID: KLA06-SB2-01

Prep Type: Total/NA

Prep Batch: 223091

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Perfluoroheptanoic acid (PFHpA)	1.2	J1	3.16	5.65	J1	ug/Kg	☼	141	76 - 124	9	30
Perfluorooctanoic acid (PFOA)	6.7	J1	3.16	13.2	J1	ug/Kg	☼	205	76 - 121	14	30
Perfluorononanoic acid (PFNA)	1.6		3.16	5.14		ug/Kg	☼	113	74 - 126	0	30
Perfluorobutanesulfonic acid (PFBS)	0.99		2.79	4.65		ug/Kg	☼	131	73 - 142	10	30
Perfluorohexanesulfonic acid (PFHxS)	42	E J1	2.87	61.2	E 4	ug/Kg	☼	680	75 - 121	8	30
Perfluorooctanesulfonic acid (PFOS)	580	E J1	2.93	827	E 4	ug/Kg	☼	8409	69 - 131	2	30
Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits								
13C3-PFBS	86		50 - 150								
13C4-PFHpA	82		50 - 150								
13C4 PFOA	83		50 - 150								
13C5 PFNA	48	Q	50 - 150								
18O2 PFHxS	63		50 - 150								
13C4 PFOS	45	Q	50 - 150								

Lab Sample ID: MB 320-223092/1-A

Matrix: Solid

Analysis Batch: 225899

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 223092

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.20	U	0.30	0.078	ug/Kg		05/14/18 14:03	05/29/18 07:27	1
Perfluorooctanoic acid (PFOA)	0.20	U	0.30	0.10	ug/Kg		05/14/18 14:03	05/29/18 07:27	1
Perfluorononanoic acid (PFNA)	0.20	U	0.30	0.081	ug/Kg		05/14/18 14:03	05/29/18 07:27	1
Perfluorobutanesulfonic acid (PFBS)	0.18	U	0.40	0.059	ug/Kg		05/14/18 14:03	05/29/18 07:27	1
Perfluorohexanesulfonic acid (PFHxS)	0.20	U	0.30	0.062	ug/Kg		05/14/18 14:03	05/29/18 07:27	1
Perfluorooctanesulfonic acid (PFOS)	0.50	U	1.0	0.24	ug/Kg		05/14/18 14:03	05/29/18 07:27	1
Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
13C3-PFBS	68		50 - 150	05/14/18 14:03	05/29/18 07:27	1			
13C4-PFHpA	71		50 - 150	05/14/18 14:03	05/29/18 07:27	1			
13C4 PFOA	78		50 - 150	05/14/18 14:03	05/29/18 07:27	1			

TestAmerica Sacramento



# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Lab Sample ID: MB 320-223092/1-A

Matrix: Solid

Analysis Batch: 225899

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 223092

<i>Isotope Dilution</i>	<i>MB MB</i> <i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C5 PFNA	75		50 - 150	05/14/18 14:03	05/29/18 07:27	1
18O2 PFHxS	71		50 - 150	05/14/18 14:03	05/29/18 07:27	1
13C4 PFOS	70		50 - 150	05/14/18 14:03	05/29/18 07:27	1

Lab Sample ID: LCS 320-223092/2-A

Matrix: Solid

Analysis Batch: 225899

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 223092

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>
Perfluoroheptanoic acid (PFHpA)	2.00	2.34		ug/Kg		117	76 - 124
Perfluorooctanoic acid (PFOA)	2.00	2.27		ug/Kg		113	76 - 121
Perfluorononanoic acid (PFNA)	2.00	2.23		ug/Kg		111	74 - 126
Perfluorobutanesulfonic acid (PFBS)	1.77	2.09		ug/Kg		118	73 - 142
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.95		ug/Kg		107	75 - 121
Perfluorooctanesulfonic acid (PFOS)	1.86	2.11		ug/Kg		114	69 - 131

<i>Isotope Dilution</i>	<i>LCS LCS</i> <i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
13C3-PFBS	71		50 - 150
13C4-PFHpA	73		50 - 150
13C4 PFOA	79		50 - 150
13C5 PFNA	81		50 - 150
18O2 PFHxS	73		50 - 150
13C4 PFOS	71		50 - 150

Lab Sample ID: 320-39023-15 MS

Matrix: Solid

Analysis Batch: 225899

Client Sample ID: KLA02-SB1-01

Prep Type: Total/NA

Prep Batch: 223092

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>
Perfluoroheptanoic acid (PFHpA)	0.16	J	2.60	3.00		ug/Kg	☼	109	76 - 124
Perfluorooctanoic acid (PFOA)	0.46	M	2.60	3.13		ug/Kg	☼	102	76 - 121
Perfluorononanoic acid (PFNA)	0.26	U	2.60	2.80		ug/Kg	☼	108	74 - 126
Perfluorobutanesulfonic acid (PFBS)	0.25	J	2.30	2.61		ug/Kg	☼	103	73 - 142
Perfluorohexanesulfonic acid (PFHxS)	2.6		2.37	4.85		ug/Kg	☼	95	75 - 121
Perfluorooctanesulfonic acid (PFOS)	7.6	J1	2.42	10.2	M	ug/Kg	☼	107	69 - 131

<i>Isotope Dilution</i>	<i>MS MS</i> <i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
13C3-PFBS	77		50 - 150
13C4-PFHpA	83		50 - 150
13C4 PFOA	87		50 - 150
13C5 PFNA	91		50 - 150
18O2 PFHxS	82		50 - 150
13C4 PFOS	80		50 - 150

TestAmerica Sacramento

# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Lab Sample ID: 320-39023-15 MSD

Matrix: Solid

Analysis Batch: 225899

Client Sample ID: KLA02-SB1-01

Prep Type: Total/NA

Prep Batch: 223092

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroheptanoic acid (PFHpA)	0.16	J	2.59	2.91		ug/Kg	☼	106	76 - 124	3	30
Perfluorooctanoic acid (PFOA)	0.46	M	2.59	2.99		ug/Kg	☼	98	76 - 121	4	30
Perfluorononanoic acid (PFNA)	0.26	U	2.59	2.76		ug/Kg	☼	106	74 - 126	2	30
Perfluorobutanesulfonic acid (PFBS)	0.25	J	2.29	2.75		ug/Kg	☼	109	73 - 142	5	30
Perfluorohexanesulfonic acid (PFHxS)	2.6		2.36	4.92		ug/Kg	☼	98	75 - 121	1	30
Perfluorooctanesulfonic acid (PFOS)	7.6	J1	2.41	8.73	J1	ug/Kg	☼	48	69 - 131	15	30
Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits								
13C3-PFBS	80		50 - 150								
13C4-PFHpA	90		50 - 150								
13C4 PFOA	95		50 - 150								
13C5 PFNA	96		50 - 150								
18O2 PFHxS	83		50 - 150								
13C4 PFOS	85		50 - 150								

Lab Sample ID: MB 320-223346/1-A

Matrix: Water

Analysis Batch: 224205

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 223346

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.5	U	2.0	0.61	ng/L		05/15/18 12:48	05/19/18 04:33	1
Perfluorooctanoic acid (PFOA)	1.5	U M	2.0	0.54	ng/L		05/15/18 12:48	05/19/18 04:33	1
Perfluorononanoic acid (PFNA)	1.5	U	2.0	0.52	ng/L		05/15/18 12:48	05/19/18 04:33	1
Perfluorobutanesulfonic acid (PFBS)	1.0	U	2.0	0.46	ng/L		05/15/18 12:48	05/19/18 04:33	1
Perfluorohexanesulfonic acid (PFHxS)	1.0	U	2.0	0.38	ng/L		05/15/18 12:48	05/19/18 04:33	1
Perfluorooctanesulfonic acid (PFOS)	3.0	U	4.0	1.1	ng/L		05/15/18 12:48	05/19/18 04:33	1
Isotope Dilution	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	84		50 - 150				05/15/18 12:48	05/19/18 04:33	1
13C4-PFHpA	94		50 - 150				05/15/18 12:48	05/19/18 04:33	1
13C4 PFOA	96		50 - 150				05/15/18 12:48	05/19/18 04:33	1
13C5 PFNA	96		50 - 150				05/15/18 12:48	05/19/18 04:33	1
18O2 PFHxS	87		50 - 150				05/15/18 12:48	05/19/18 04:33	1
13C4 PFOS	86		50 - 150				05/15/18 12:48	05/19/18 04:33	1

Lab Sample ID: LCS 320-223346/2-A

Matrix: Water

Analysis Batch: 224205

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 223346

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanoic acid (PFHpA)	40.0	39.3		ng/L		98	80 - 113
Perfluorooctanoic acid (PFOA)	40.0	38.0		ng/L		95	80 - 107
Perfluorononanoic acid (PFNA)	40.0	40.6		ng/L		102	83 - 113
Perfluorobutanesulfonic acid (PFBS)	35.4	36.7		ng/L		104	87 - 120
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.1		ng/L		94	81 - 106

TestAmerica Sacramento

# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Lab Sample ID: LCS 320-223346/2-A

Matrix: Water

Analysis Batch: 224205

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 223346

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	37.1	37.0		ng/L		100	82 - 112
Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits				
13C3-PFBS	82		50 - 150				
13C4-PFHpA	94		50 - 150				
13C4 PFOA	93		50 - 150				
13C5 PFNA	95		50 - 150				
18O2 PFHxS	89		50 - 150				
13C4 PFOS	83		50 - 150				

Lab Sample ID: MB 320-223615/1-A

Matrix: Water

Analysis Batch: 225818

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 223615

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.5	U	2.0	0.61	ng/L		05/16/18 14:51	05/28/18 07:23	1
Perfluorooctanoic acid (PFOA)	1.5	U M	2.0	0.54	ng/L		05/16/18 14:51	05/28/18 07:23	1
Perfluorononanoic acid (PFNA)	1.5	U	2.0	0.52	ng/L		05/16/18 14:51	05/28/18 07:23	1
Perfluorobutanesulfonic acid (PFBS)	1.0	U	2.0	0.46	ng/L		05/16/18 14:51	05/28/18 07:23	1
Perfluorohexanesulfonic acid (PFHxS)	1.0	U	2.0	0.38	ng/L		05/16/18 14:51	05/28/18 07:23	1
Perfluorooctanesulfonic acid (PFOS)	3.0	U	4.0	1.1	ng/L		05/16/18 14:51	05/28/18 07:23	1
Isotope Dilution	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	80		50 - 150				05/16/18 14:51	05/28/18 07:23	1
13C4-PFHpA	84		50 - 150				05/16/18 14:51	05/28/18 07:23	1
13C4 PFOA	93		50 - 150				05/16/18 14:51	05/28/18 07:23	1
13C5 PFNA	94		50 - 150				05/16/18 14:51	05/28/18 07:23	1
18O2 PFHxS	85		50 - 150				05/16/18 14:51	05/28/18 07:23	1
13C4 PFOS	81		50 - 150				05/16/18 14:51	05/28/18 07:23	1

Lab Sample ID: LCS 320-223615/2-A

Matrix: Water

Analysis Batch: 225818

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 223615

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanoic acid (PFHpA)	40.0	39.6		ng/L		99	80 - 113
Perfluorooctanoic acid (PFOA)	40.0	35.7		ng/L		89	80 - 107
Perfluorononanoic acid (PFNA)	40.0	37.6		ng/L		94	83 - 113
Perfluorobutanesulfonic acid (PFBS)	35.4	36.3		ng/L		103	87 - 120
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.0		ng/L		96	81 - 106
Perfluorooctanesulfonic acid (PFOS)	37.1	33.5		ng/L		90	82 - 112
Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits				
13C3-PFBS	78		50 - 150				
13C4-PFHpA	85		50 - 150				
13C4 PFOA	90		50 - 150				

TestAmerica Sacramento

# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Lab Sample ID: LCS 320-223615/2-A  
Matrix: Water  
Analysis Batch: 225818

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 223615

	LCS	LCS	
Isotope Dilution	%Recovery	Qualifier	Limits
13C5 PFNA	90		50 - 150
18O2 PFHxS	80		50 - 150
13C4 PFOS	86		50 - 150

Lab Sample ID: MB 320-223901/1-A  
Matrix: Water  
Analysis Batch: 225690

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 223901

Analyte	MB	MB							
	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.5	U	2.0	0.61	ng/L		05/17/18 14:42	05/25/18 22:49	1
Perfluorooctanoic acid (PFOA)	1.5	U	2.0	0.54	ng/L		05/17/18 14:42	05/25/18 22:49	1
Perfluorononanoic acid (PFNA)	1.5	U	2.0	0.52	ng/L		05/17/18 14:42	05/25/18 22:49	1
Perfluorobutanesulfonic acid (PFBS)	1.0	U	2.0	0.46	ng/L		05/17/18 14:42	05/25/18 22:49	1
Perfluorohexanesulfonic acid (PFHxS)	1.0	U	2.0	0.38	ng/L		05/17/18 14:42	05/25/18 22:49	1
Perfluorooctanesulfonic acid (PFOS)	3.0	U	4.0	1.1	ng/L		05/17/18 14:42	05/25/18 22:49	1
	MB	MB							
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	85		50 - 150				05/17/18 14:42	05/25/18 22:49	1
13C4-PFHpA	86		50 - 150				05/17/18 14:42	05/25/18 22:49	1
13C4 PFOA	88		50 - 150				05/17/18 14:42	05/25/18 22:49	1
13C5 PFNA	92		50 - 150				05/17/18 14:42	05/25/18 22:49	1
18O2 PFHxS	83		50 - 150				05/17/18 14:42	05/25/18 22:49	1
13C4 PFOS	82		50 - 150				05/17/18 14:42	05/25/18 22:49	1

Lab Sample ID: LCS 320-223901/2-A  
Matrix: Water  
Analysis Batch: 225690

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 223901

Analyte	Spike	LCS	LCS						
	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Perfluoroheptanoic acid (PFHpA)	40.0	40.1		ng/L		100	80 - 113		
Perfluorooctanoic acid (PFOA)	40.0	38.5		ng/L		96	80 - 107		
Perfluorononanoic acid (PFNA)	40.0	38.3		ng/L		96	83 - 113		
Perfluorobutanesulfonic acid (PFBS)	35.4	34.9		ng/L		99	87 - 120		
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.7		ng/L		98	81 - 106		
Perfluorooctanesulfonic acid (PFOS)	37.1	37.6	M	ng/L		101	82 - 112		
		LCS	LCS						
Isotope Dilution	%Recovery	Qualifier	Limits						
13C3-PFBS	81		50 - 150						
13C4-PFHpA	83		50 - 150						
13C4 PFOA	84		50 - 150						
13C5 PFNA	84		50 - 150						
18O2 PFHxS	79		50 - 150						
13C4 PFOS	79		50 - 150						

# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Lab Sample ID: MB 320-224065/1-A

Matrix: Water

Analysis Batch: 225820

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 224065

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.5	U	2.0	0.61	ng/L		05/18/18 10:26	05/28/18 11:03	1
Perfluorooctanoic acid (PFOA)	1.5	U	2.0	0.54	ng/L		05/18/18 10:26	05/28/18 11:03	1
Perfluorononanoic acid (PFNA)	1.5	U	2.0	0.52	ng/L		05/18/18 10:26	05/28/18 11:03	1
Perfluorobutanesulfonic acid (PFBS)	1.0	U	2.0	0.46	ng/L		05/18/18 10:26	05/28/18 11:03	1
Perfluorohexanesulfonic acid (PFHxS)	1.0	U	2.0	0.38	ng/L		05/18/18 10:26	05/28/18 11:03	1
Perfluorooctanesulfonic acid (PFOS)	3.0	U	4.0	1.1	ng/L		05/18/18 10:26	05/28/18 11:03	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-PFBS	88		50 - 150	05/18/18 10:26	05/28/18 11:03	1
13C4-PFHpA	93		50 - 150	05/18/18 10:26	05/28/18 11:03	1
13C4 PFOA	103		50 - 150	05/18/18 10:26	05/28/18 11:03	1
13C5 PFNA	106		50 - 150	05/18/18 10:26	05/28/18 11:03	1
18O2 PFHxS	94		50 - 150	05/18/18 10:26	05/28/18 11:03	1
13C4 PFOS	92		50 - 150	05/18/18 10:26	05/28/18 11:03	1

Lab Sample ID: LCS 320-224065/2-A

Matrix: Water

Analysis Batch: 225820

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 224065

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluoroheptanoic acid (PFHpA)	40.0	36.1		ng/L		90	80 - 113
Perfluorooctanoic acid (PFOA)	40.0	35.0		ng/L		88	80 - 107
Perfluorononanoic acid (PFNA)	40.0	36.9		ng/L		92	83 - 113
Perfluorobutanesulfonic acid (PFBS)	35.4	33.5		ng/L		95	87 - 120
Perfluorohexanesulfonic acid (PFHxS)	36.4	31.2		ng/L		86	81 - 106
Perfluorooctanesulfonic acid (PFOS)	37.1	33.8		ng/L		91	82 - 112

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3-PFBS	66		50 - 150
13C4-PFHpA	70		50 - 150
13C4 PFOA	74		50 - 150
13C5 PFNA	72		50 - 150
18O2 PFHxS	70		50 - 150
13C4 PFOS	66		50 - 150

Lab Sample ID: 320-39023-5 MS

Matrix: Water

Analysis Batch: 225820

Client Sample ID: MW-573-03-PRL05-01

Prep Type: Total/NA

Prep Batch: 224065

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Perfluoroheptanoic acid (PFHpA)	4400	E J1	37.2	4240	E 4	ng/L		-309	80 - 113
Perfluorooctanoic acid (PFOA)	4700	E J1	37.2	4660	E 4	ng/L		-135	80 - 107
Perfluorononanoic acid (PFNA)	200	J1	37.2	223	4 M	ng/L		66	83 - 113
Perfluorobutanesulfonic acid (PFBS)	1900	E J1 M	32.9	1670	E 4 M	ng/L		-546	87 - 120
Perfluorohexanesulfonic acid (PFHxS)	12000	E J1	33.8	11800	E 4	ng/L		-1361	81 - 106

TestAmerica Sacramento



# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Lab Sample ID: 320-39023-5 MS

Matrix: Water

Analysis Batch: 225820

Client Sample ID: MW-573-03-PRL05-01

Prep Type: Total/NA

Prep Batch: 224065

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	32000	J1 E M	34.5	32300	E 4	ng/L		1855	82 - 112
<b>Isotope Dilution</b>									
	<b>MS</b>	<b>MS</b>							
	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
13C3-PFBS	146		50 - 150						
13C4-PFHpA	48	Q	50 - 150						
13C4 PFOA	80		50 - 150						
13C5 PFNA	62		50 - 150						
18O2 PFHxS	55		50 - 150						
13C4 PFOS	48	Q	50 - 150						

Lab Sample ID: 320-39023-5 MSD

Matrix: Water

Analysis Batch: 225820

Client Sample ID: MW-573-03-PRL05-01

Prep Type: Total/NA

Prep Batch: 224065

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroheptanoic acid (PFHpA)	4400	E J1	38.7	4340	E 4	ng/L		-43	80 - 113	2	30
Perfluorooctanoic acid (PFOA)	4700	E J1	38.7	4690	E 4	ng/L		-45	80 - 107	1	30
Perfluorononanoic acid (PFNA)	200	J1	38.7	229	4 M	ng/L		78	83 - 113	2	30
Perfluorobutanesulfonic acid (PFBS)	1900	E J1 M	34.2	1790	E 4 M	ng/L		-187	87 - 120	7	30
Perfluorohexanesulfonic acid (PFHxS)	12000	E J1	35.2	12000	E 4	ng/L		-912	81 - 106	1	30
Perfluorooctanesulfonic acid (PFOS)	32000	J1 E M	35.9	33600	E 4	ng/L		5571	82 - 112	4	30
<b>Isotope Dilution</b>											
	<b>MSD</b>	<b>MSD</b>									
	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
13C3-PFBS	134		50 - 150								
13C4-PFHpA	45	Q	50 - 150								
13C4 PFOA	76		50 - 150								
13C5 PFNA	58		50 - 150								
18O2 PFHxS	54		50 - 150								
13C4 PFOS	45	Q	50 - 150								

Lab Sample ID: MB 320-224254/1-A

Matrix: Solid

Analysis Batch: 226343

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 224254

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	0.20	U	0.30	0.078	ug/Kg		05/19/18 09:21	05/31/18 02:14	1
Perfluorooctanoic acid (PFOA)	0.20	U M	0.30	0.10	ug/Kg		05/19/18 09:21	05/31/18 02:14	1
Perfluorononanoic acid (PFNA)	0.20	U	0.30	0.081	ug/Kg		05/19/18 09:21	05/31/18 02:14	1
Perfluorobutanesulfonic acid (PFBS)	0.18	U	0.40	0.059	ug/Kg		05/19/18 09:21	05/31/18 02:14	1
Perfluorohexanesulfonic acid (PFHxS)	0.20	U	0.30	0.062	ug/Kg		05/19/18 09:21	05/31/18 02:14	1
Perfluorooctanesulfonic acid (PFOS)	0.50	U	1.0	0.24	ug/Kg		05/19/18 09:21	05/31/18 02:14	1
<b>Isotope Dilution</b>									
	<b>MB</b>	<b>MB</b>							
	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C3-PFBS	77		50 - 150				05/19/18 09:21	05/31/18 02:14	1
13C4-PFHpA	85		50 - 150				05/19/18 09:21	05/31/18 02:14	1
13C4 PFOA	91		50 - 150				05/19/18 09:21	05/31/18 02:14	1

TestAmerica Sacramento

# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Lab Sample ID: MB 320-224254/1-A  
Matrix: Solid  
Analysis Batch: 226343

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 224254

<i>Isotope Dilution</i>	<i>MB MB</i> <i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C5 PFNA	93		50 - 150	05/19/18 09:21	05/31/18 02:14	1
18O2 PFHxS	85		50 - 150	05/19/18 09:21	05/31/18 02:14	1
13C4 PFOS	84		50 - 150	05/19/18 09:21	05/31/18 02:14	1

Lab Sample ID: LCS 320-224254/2-A  
Matrix: Solid  
Analysis Batch: 226343

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 224254  
%Rec.

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>
Perfluoroheptanoic acid (PFHpA)	2.00	1.94		ug/Kg		97	76 - 124
Perfluorooctanoic acid (PFOA)	2.00	1.91		ug/Kg		96	76 - 121
Perfluorononanoic acid (PFNA)	2.00	2.01		ug/Kg		100	74 - 126
Perfluorobutanesulfonic acid (PFBS)	1.77	1.76		ug/Kg		100	73 - 142
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.75		ug/Kg		96	75 - 121
Perfluorooctanesulfonic acid (PFOS)	1.86	1.83		ug/Kg		99	69 - 131
<i>Isotope Dilution</i>	<i>LCS LCS</i> <i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
13C3-PFBS	81		50 - 150				
13C4-PFHpA	88		50 - 150				
13C4 PFOA	91		50 - 150				
13C5 PFNA	91		50 - 150				
18O2 PFHxS	85		50 - 150				
13C4 PFOS	83		50 - 150				

Lab Sample ID: 320-39023-59 MS  
Matrix: Solid  
Analysis Batch: 226343

Client Sample ID: KLA07-SD1-01D  
Prep Type: Total/NA  
Prep Batch: 224254  
%Rec.

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.		
	Result	Qualifier	Added	Result	Qualifier				Limits		
Perfluoroheptanoic acid (PFHpA)	0.12	J	2.65	2.83		ug/Kg	☼	102	76 - 124		
Perfluorooctanoic acid (PFOA)	0.48		2.65	2.74		ug/Kg	☼	85	76 - 121		
Perfluorononanoic acid (PFNA)	0.27	U	2.65	2.54		ug/Kg	☼	96	74 - 126		
Perfluorobutanesulfonic acid (PFBS)	0.20	J	2.34	2.66		ug/Kg	☼	105	73 - 142		
Perfluorohexanesulfonic acid (PFHxS)	2.1		2.41	4.31		ug/Kg	☼	91	75 - 121		
Perfluorooctanesulfonic acid (PFOS)	15	J1	2.46	11.8	4	ug/Kg	☼	-148	69 - 131		
		MS	MS								
Isotope Dilution	%Recovery	Qualifier	Limits								
13C3-PFBS	71		50 - 150								
13C4-PFHpA	79		50 - 150								
13C4 PFOA	88		50 - 150								
13C5 PFNA	95		50 - 150								
18O2 PFHxS	76		50 - 150								
13C4 PFOS	77		50 - 150								

TestAmerica Sacramento

# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Lab Sample ID: 320-39023-59 MSD

Matrix: Solid

Analysis Batch: 226343

Client Sample ID: KLA07-SD1-01D

Prep Type: Total/NA

Prep Batch: 224254

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroheptanoic acid (PFHpA)	0.12	J	2.68	2.74		ug/Kg	☼	98	76 - 124	3	30
Perfluorooctanoic acid (PFOA)	0.48		2.68	2.72		ug/Kg	☼	84	76 - 121	1	30
Perfluorononanoic acid (PFNA)	0.27	U	2.68	2.54		ug/Kg	☼	95	74 - 126	0	30
Perfluorobutanesulfonic acid (PFBS)	0.20	J	2.37	2.49		ug/Kg	☼	97	73 - 142	6	30
Perfluorohexanesulfonic acid (PFHxS)	2.1		2.44	4.14		ug/Kg	☼	84	75 - 121	4	30
Perfluorooctanesulfonic acid (PFOS)	15	J1	2.48	10.1	4	ug/Kg	☼	-213	69 - 131	15	30
Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits								
13C3-PFBS	72		50 - 150								
13C4-PFHpA	81		50 - 150								
13C4 PFOA	91		50 - 150								
13C5 PFNA	94		50 - 150								
18O2 PFHxS	77		50 - 150								
13C4 PFOS	78		50 - 150								

Lab Sample ID: MB 320-224509/1-A

Matrix: Water

Analysis Batch: 226349

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 224509

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.5	U	2.0	0.61	ng/L		05/21/18 11:57	05/31/18 03:56	1
Perfluorooctanoic acid (PFOA)	1.5	U	2.0	0.54	ng/L		05/21/18 11:57	05/31/18 03:56	1
Perfluorononanoic acid (PFNA)	1.5	U	2.0	0.52	ng/L		05/21/18 11:57	05/31/18 03:56	1
Perfluorobutanesulfonic acid (PFBS)	1.0	U	2.0	0.46	ng/L		05/21/18 11:57	05/31/18 03:56	1
Perfluorohexanesulfonic acid (PFHxS)	1.0	U	2.0	0.38	ng/L		05/21/18 11:57	05/31/18 03:56	1
Perfluorooctanesulfonic acid (PFOS)	1.82	J	4.0	1.1	ng/L		05/21/18 11:57	05/31/18 03:56	1
Isotope Dilution	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3-PFBS	75		50 - 150				05/21/18 11:57	05/31/18 03:56	1
13C4-PFHpA	77		50 - 150				05/21/18 11:57	05/31/18 03:56	1
13C4 PFOA	82		50 - 150				05/21/18 11:57	05/31/18 03:56	1
13C5 PFNA	83		50 - 150				05/21/18 11:57	05/31/18 03:56	1
18O2 PFHxS	77		50 - 150				05/21/18 11:57	05/31/18 03:56	1
13C4 PFOS	76		50 - 150				05/21/18 11:57	05/31/18 03:56	1

Lab Sample ID: LCS 320-224509/2-A

Matrix: Water

Analysis Batch: 226349

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 224509

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanoic acid (PFHpA)	40.0	39.5		ng/L		99	80 - 113
Perfluorooctanoic acid (PFOA)	40.0	37.7		ng/L		94	80 - 107
Perfluorononanoic acid (PFNA)	40.0	38.6		ng/L		96	83 - 113
Perfluorobutanesulfonic acid (PFBS)	35.4	34.3		ng/L		97	87 - 120
Perfluorohexanesulfonic acid (PFHxS)	36.4	33.9		ng/L		93	81 - 106

TestAmerica Sacramento

# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 (Continued)

Lab Sample ID: LCS 320-224509/2-A

Matrix: Water

Analysis Batch: 226349

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 224509

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	37.1	34.2		ng/L		92	82 - 112
Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits				
13C3-PFBS	80		50 - 150				
13C4-PFHpA	85		50 - 150				
13C4 PFOA	88		50 - 150				
13C5 PFNA	91		50 - 150				
18O2 PFHxS	82		50 - 150				
13C4 PFOS	83		50 - 150				

Lab Sample ID: LCSD 320-224509/3-A

Matrix: Water

Analysis Batch: 226349

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 224509

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroheptanoic acid (PFHpA)	40.0	38.4		ng/L		96	80 - 113	3	30
Perfluorooctanoic acid (PFOA)	40.0	38.2		ng/L		96	80 - 107	1	30
Perfluorononanoic acid (PFNA)	40.0	40.2		ng/L		101	83 - 113	4	30
Perfluorobutanesulfonic acid (PFBS)	35.4	34.7		ng/L		98	87 - 120	1	30
Perfluorohexanesulfonic acid (PFHxS)	36.4	32.1		ng/L		88	81 - 106	5	30
Perfluorooctanesulfonic acid (PFOS)	37.1	32.9		ng/L		89	82 - 112	4	30
Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits						
13C3-PFBS	72		50 - 150						
13C4-PFHpA	76		50 - 150						
13C4 PFOA	81		50 - 150						
13C5 PFNA	82		50 - 150						
18O2 PFHxS	77		50 - 150						
13C4 PFOS	76		50 - 150						

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL

Lab Sample ID: 320-39023-41 MS

Matrix: Solid

Analysis Batch: 226044

Client Sample ID: KLA06-SB2-01

Prep Type: Total/NA

Prep Batch: 223091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanoic acid (PFHpA) - DL	1.2	D J1	3.15	5.72	D J1	ug/Kg	☼	181	76 - 124
Perfluorooctanoic acid (PFOA) - DL	6.7	D J1	3.15	12.3	D J1	ug/Kg	☼	177	76 - 121
Perfluorononanoic acid (PFNA) - DL	1.6	J D	3.15	5.30	D	ug/Kg	☼	118	74 - 126
Perfluorobutanesulfonic acid (PFBS) - DL	1.0	D J1	2.79	4.25	J D	ug/Kg	☼	116	73 - 142
Perfluorohexanesulfonic acid (PFHxS) - DL	44	D J1	2.87	61.0	D 4	ug/Kg	☼	611	75 - 121

TestAmerica Sacramento

# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)

Lab Sample ID: 320-39023-41 MS

Matrix: Solid

Analysis Batch: 226044

Client Sample ID: KLA06-SB2-01

Prep Type: Total/NA

Prep Batch: 223091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS) - DL	860	E D M J1	2.92	1140	E D M 4	ug/Kg	☼	9468	69 - 131
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
13C3-PFBS - DL	71		50 - 150						
13C4-PFHpA - DL	79		50 - 150						
13C4 PFOA - DL	81		50 - 150						
13C5 PFNA - DL	74		50 - 150						
18O2 PFHxS - DL	73		50 - 150						
13C4 PFOS - DL	64		50 - 150						

Lab Sample ID: 320-39023-41 MSD

Matrix: Solid

Analysis Batch: 226044

Client Sample ID: KLA06-SB2-01

Prep Type: Total/NA

Prep Batch: 223091

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroheptanoic acid (PFHpA) - DL	1.2	D J1	3.16	6.13	D J1	ug/Kg	☼	194	76 - 124	7	30
Perfluorooctanoic acid (PFOA) - DL	6.7	D J1	3.16	13.8	D J1	ug/Kg	☼	226	76 - 121	12	30
Perfluorononanoic acid (PFNA) - DL	1.6	J D	3.16	5.39	D	ug/Kg	☼	121	74 - 126	2	30
Perfluorobutanesulfonic acid (PFBS) - DL	1.0	D J1	2.79	5.28	J D J1	ug/Kg	☼	153	73 - 142	22	30
Perfluorohexanesulfonic acid (PFHxS) - DL	44	D J1	2.87	64.1	D 4	ug/Kg	☼	715	75 - 121	5	30
Perfluorooctanesulfonic acid (PFOS) - DL	860	E D M J1	2.93	1170	E D 4	ug/Kg	☼	10722	69 - 131	3	30
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
13C3-PFBS - DL	62		50 - 150								
13C4-PFHpA - DL	80		50 - 150								
13C4 PFOA - DL	82		50 - 150								
13C5 PFNA - DL	73		50 - 150								
18O2 PFHxS - DL	72		50 - 150								
13C4 PFOS - DL	61		50 - 150								

Lab Sample ID: 320-39023-5 MS

Matrix: Water

Analysis Batch: 226055

Client Sample ID: MW-573-03-PRL05-01

Prep Type: Total/NA

Prep Batch: 224065

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanoic acid (PFHpA) - DL	5100	J1 D	37.2	5430	4 D	ng/L		920	80 - 113
Perfluorooctanoic acid (PFOA) - DL	6700	J1 D	37.2	6130	4 D	ng/L		-1548	80 - 107
Perfluorononanoic acid (PFNA) - DL	190	J1 D M	37.2	225	4 D	ng/L		89	83 - 113
Perfluorobutanesulfonic acid (PFBS) - DL	3900	J1 D	32.9	3890	4 D	ng/L		-129	87 - 120
Perfluorohexanesulfonic acid (PFHxS) - DL	39000	E J1 D	33.8	35400	E 4 D	ng/L		-9248	81 - 106

TestAmerica Sacramento



# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL (Continued)

Lab Sample ID: 320-39023-5 MS

Matrix: Water

Analysis Batch: 226055

Client Sample ID: MW-573-03-PRL05-01

Prep Type: Total/NA

Prep Batch: 224065

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS) - DL	63000	J1 E D	34.5	72300	E 4 D	ng/L		25660	82 - 112
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
13C3-PFBS - DL	107	M	50 - 150						
13C4-PFHpA - DL	64		50 - 150						
13C4 PFOA - DL	86		50 - 150						
13C5 PFNA - DL	71		50 - 150						
18O2 PFHxS - DL	82		50 - 150						
13C4 PFOS - DL	61		50 - 150						

Lab Sample ID: 320-39023-5 MSD

Matrix: Water

Analysis Batch: 226055

Client Sample ID: MW-573-03-PRL05-01

Prep Type: Total/NA

Prep Batch: 224065

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroheptanoic acid (PFHpA) - DL	5100	J1 D	38.7	4770	4 D	ng/L		-833	80 - 113	13	30
Perfluorooctanoic acid (PFOA) - DL	6700	J1 D	38.7	6400	4 D	ng/L		-782	80 - 107	4	30
Perfluorononanoic acid (PFNA) - DL	190	J1 D M	38.7	241	4 D M	ng/L		128	83 - 113	7	30
Perfluorobutanesulfonic acid (PFBS) - DL	3900	J1 D	34.2	3640	4 D	ng/L		-862	87 - 120	7	30
Perfluorohexanesulfonic acid (PFHxS) - DL	39000	E J1 D	35.2	36500	E 4 D	ng/L		-5657	81 - 106	3	30
Perfluorooctanesulfonic acid (PFOS) - DL	63000	J1 E D	35.9	68600	E 4 D	ng/L		14331	82 - 112	5	30
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
13C3-PFBS - DL	107	M	50 - 150								
13C4-PFHpA - DL	65		50 - 150								
13C4 PFOA - DL	76		50 - 150								
13C5 PFNA - DL	72		50 - 150								
18O2 PFHxS - DL	76		50 - 150								
13C4 PFOS - DL	64		50 - 150								

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2

Lab Sample ID: 320-39023-41 MS

Matrix: Solid

Analysis Batch: 226044

Client Sample ID: KLA06-SB2-01

Prep Type: Total/NA

Prep Batch: 223091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanoic acid (PFHpA) - DL2	32	U	3.15	32	U	ug/Kg	☼	NC	76 - 124
Perfluorooctanoic acid (PFOA) - DL2	32	U	3.15	32	U M	ug/Kg	☼	NC	76 - 121
Perfluorononanoic acid (PFNA) - DL2	32	U	3.15	32	U M	ug/Kg	☼	NC	74 - 126

TestAmerica Sacramento

# QC Sample Results

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Method: EPA 537 (Mod) - PFAS for QSM 5.1, Table B-15 - DL2 (Continued)

Lab Sample ID: 320-39023-41 MS

Matrix: Solid

Analysis Batch: 226044

Client Sample ID: KLA06-SB2-01

Prep Type: Total/NA

Prep Batch: 223091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanesulfonic acid (PFBS) - DL2	29	U	2.79	28	U	ug/Kg	☼	NC	73 - 142
Perfluorohexanesulfonic acid (PFHxS) - DL2	39	D J1	2.87	58.6	D 4	ug/Kg	☼	682	75 - 121
Perfluorooctanesulfonic acid (PFOS) - DL2	960	D M J1	2.92	1200	D M 4	ug/Kg	☼	8375	69 - 131
Isotope Dilution	MS %Recovery	MS Qualifier	Limits						
13C3-PFBS - DL2	44	M Q	50 - 150						
13C4-PFHxPA - DL2	71		50 - 150						
13C4 PFOA - DL2	77		50 - 150						
13C5 PFNA - DL2	73		50 - 150						
18O2 PFHxS - DL2	65		50 - 150						
13C4 PFOS - DL2	66		50 - 150						

Lab Sample ID: 320-39023-41 MSD

Matrix: Solid

Analysis Batch: 226044

Client Sample ID: KLA06-SB2-01

Prep Type: Total/NA

Prep Batch: 223091

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Perfluoroheptanoic acid (PFHpA) - DL2	32	U	3.16	32	U	ug/Kg	☼	NC	76 - 124	NC	30
Perfluorooctanoic acid (PFOA) - DL2	32	U	3.16	16.3	J D	ug/Kg	☼	NC	76 - 121	NC	30
Perfluorononanoic acid (PFNA) - DL2	32	U	3.16	32	U	ug/Kg	☼	NC	74 - 126	NC	30
Perfluorobutanesulfonic acid (PFBS) - DL2	29	U	2.79	28	U	ug/Kg	☼	NC	73 - 142	NC	30
Perfluorohexanesulfonic acid (PFHxS) - DL2	39	D J1	2.87	60.5	D 4	ug/Kg	☼	747	75 - 121	3	30
Perfluorooctanesulfonic acid (PFOS) - DL2	960	D M J1	2.93	1230	D M 4	ug/Kg	☼	9131	69 - 131	2	30
Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits								
13C3-PFBS - DL2	76	M	50 - 150								
13C4-PFHxPA - DL2	76		50 - 150								
13C4 PFOA - DL2	81		50 - 150								
13C5 PFNA - DL2	75		50 - 150								
18O2 PFHxS - DL2	66		50 - 150								
13C4 PFOS - DL2	71		50 - 150								

# QC Association Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## GC/MS VOA

### Leach Batch: 415139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-57	IDW-KINGSLEY-SO-LDOS01	TCLP	Solid	1311	
LB 280-415139/1-A	Method Blank	TCLP	Solid	1311	
LCS 280-415139/2-A	Lab Control Sample	TCLP	Solid	1311	

### Leach Batch: 415294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-58	IDW-KINGSLEY-WA-LDOS01	TCLP	Water	1311	
LB3 280-415294/1-A	Method Blank	TCLP	Water	1311	
LCS 280-415294/2-A	Lab Control Sample	TCLP	Water	1311	

### Analysis Batch: 415557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-58	IDW-KINGSLEY-WA-LDOS01	TCLP	Water	8260B	415294
LB3 280-415294/1-A	Method Blank	TCLP	Water	8260B	415294
LCS 280-415294/2-A	Lab Control Sample	TCLP	Water	8260B	415294

### Analysis Batch: 416517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-57	IDW-KINGSLEY-SO-LDOS01	TCLP	Solid	8260B	415139
LB 280-415139/1-A	Method Blank	TCLP	Solid	8260B	415139
LCS 280-415139/2-A	Lab Control Sample	TCLP	Solid	8260B	415139

## GC/MS Semi VOA

### Leach Batch: 415138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-57	IDW-KINGSLEY-SO-LDOS01	TCLP	Solid	1311	
LB 280-415138/1-C	Method Blank	TCLP	Solid	1311	
LCS 280-415138/2-C	Lab Control Sample	TCLP	Solid	1311	
320-39023-57 MS	IDW-KINGSLEY-SO-LDOS01	TCLP	Solid	1311	
320-39023-57 MSD	IDW-KINGSLEY-SO-LDOS01	TCLP	Solid	1311	

### Leach Batch: 415275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-58	IDW-KINGSLEY-WA-LDOS01	TCLP	Water	1311	

### Prep Batch: 415600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-57	IDW-KINGSLEY-SO-LDOS01	TCLP	Solid	3510C	415138
LB 280-415138/1-C	Method Blank	TCLP	Solid	3510C	415138
LCS 280-415138/2-C	Lab Control Sample	TCLP	Solid	3510C	415138
320-39023-57 MS	IDW-KINGSLEY-SO-LDOS01	TCLP	Solid	3510C	415138
320-39023-57 MSD	IDW-KINGSLEY-SO-LDOS01	TCLP	Solid	3510C	415138

### Prep Batch: 416023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-58	IDW-KINGSLEY-WA-LDOS01	TCLP	Water	3510C	415275
LB3 280-416023/1-A	Method Blank	Total/NA	Water	3510C	
LCS 280-416023/2-A	Lab Control Sample	Total/NA	Water	3510C	

TestAmerica Sacramento

# QC Association Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## GC/MS Semi VOA (Continued)

### Analysis Batch: 416357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-57	IDW-KINGSLEY-SO-LDOS01	TCLP	Solid	8270D	415600
320-39023-58	IDW-KINGSLEY-WA-LDOS01	TCLP	Water	8270D	416023
LB 280-415138/1-C	Method Blank	TCLP	Solid	8270D	415600
LB3 280-416023/1-A	Method Blank	Total/NA	Water	8270D	416023
LCS 280-415138/2-C	Lab Control Sample	TCLP	Solid	8270D	415600
LCS 280-416023/2-A	Lab Control Sample	Total/NA	Water	8270D	416023
320-39023-57 MS	IDW-KINGSLEY-SO-LDOS01	TCLP	Solid	8270D	415600
320-39023-57 MSD	IDW-KINGSLEY-SO-LDOS01	TCLP	Solid	8270D	415600

## LCMS

### Prep Batch: 223091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-9 - DL	KLA-01-SB1-01	Total/NA	Solid	SHAKE	
320-39023-9	KLA-01-SB1-01	Total/NA	Solid	SHAKE	
320-39023-10	KLA-01-SB1-02	Total/NA	Solid	SHAKE	
320-39023-10 - DL	KLA-01-SB1-02	Total/NA	Solid	SHAKE	
320-39023-11	KLA-01-SB2-01	Total/NA	Solid	SHAKE	
320-39023-12	KLA-01-SB2-02	Total/NA	Solid	SHAKE	
320-39023-13	KLA-01-SB3-01	Total/NA	Solid	SHAKE	
320-39023-14	KLA-01-SB3-02	Total/NA	Solid	SHAKE	
320-39023-21	KLA03-SB1-01	Total/NA	Solid	SHAKE	
320-39023-22	KLA03-SB1-02	Total/NA	Solid	SHAKE	
320-39023-23	KLA03-SB2-01	Total/NA	Solid	SHAKE	
320-39023-24	KLA03-SB2-02	Total/NA	Solid	SHAKE	
320-39023-25	KLA03-SB3-01	Total/NA	Solid	SHAKE	
320-39023-26	KLA03-SB3-02	Total/NA	Solid	SHAKE	
320-39023-39	KLA06-SB1-01	Total/NA	Solid	SHAKE	
320-39023-39 - DL	KLA06-SB1-01	Total/NA	Solid	SHAKE	
320-39023-40 - DL	KLA06-SB1-02	Total/NA	Solid	SHAKE	
320-39023-40	KLA06-SB1-02	Total/NA	Solid	SHAKE	
320-39023-41	KLA06-SB2-01	Total/NA	Solid	SHAKE	
320-39023-41 - DL	KLA06-SB2-01	Total/NA	Solid	SHAKE	
320-39023-41 - DL2	KLA06-SB2-01	Total/NA	Solid	SHAKE	
320-39023-42 - DL2	KLA06-SB2-02	Total/NA	Solid	SHAKE	
320-39023-42 - DL	KLA06-SB2-02	Total/NA	Solid	SHAKE	
320-39023-42	KLA06-SB2-02	Total/NA	Solid	SHAKE	
320-39023-43	KLA07-SD1-01	Total/NA	Solid	SHAKE	
320-39023-51	KLA03-SB-2-01D	Total/NA	Solid	SHAKE	
320-39023-52	KLA06-SB-2-02D	Total/NA	Solid	SHAKE	
320-39023-52 - DL	KLA06-SB-2-02D	Total/NA	Solid	SHAKE	
320-39023-52 - DL2	KLA06-SB-2-02D	Total/NA	Solid	SHAKE	
320-39023-55 - DL	KLA05-SB1-01D	Total/NA	Solid	SHAKE	
320-39023-55	KLA05-SB1-01D	Total/NA	Solid	SHAKE	
MB 320-223091/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-223091/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-39023-41 MS - DL2	KLA06-SB2-01	Total/NA	Solid	SHAKE	
320-39023-41 MS - DL	KLA06-SB2-01	Total/NA	Solid	SHAKE	
320-39023-41 MS	KLA06-SB2-01	Total/NA	Solid	SHAKE	
320-39023-41 MSD - DL2	KLA06-SB2-01	Total/NA	Solid	SHAKE	

TestAmerica Sacramento

# QC Association Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## LCMS (Continued)

### Prep Batch: 223091 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-41 MSD - DL	KLA06-SB2-01	Total/NA	Solid	SHAKE	
320-39023-41 MSD	KLA06-SB2-01	Total/NA	Solid	SHAKE	

### Prep Batch: 223092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-15	KLA02-SB1-01	Total/NA	Solid	SHAKE	
320-39023-16	KLA02-SB1-02	Total/NA	Solid	SHAKE	
320-39023-17 - DL	KLA02-SB2-01	Total/NA	Solid	SHAKE	
320-39023-17	KLA02-SB2-01	Total/NA	Solid	SHAKE	
320-39023-18	KLA02-SB2-02	Total/NA	Solid	SHAKE	
320-39023-18 - DL	KLA02-SB2-02	Total/NA	Solid	SHAKE	
320-39023-19 - DL	KLA02-SB3-01	Total/NA	Solid	SHAKE	
320-39023-19	KLA02-SB3-01	Total/NA	Solid	SHAKE	
320-39023-20	KLA02-SB3-02	Total/NA	Solid	SHAKE	
320-39023-27 - DL	KLA04-SB1-01	Total/NA	Solid	SHAKE	
320-39023-27	KLA04-SB1-01	Total/NA	Solid	SHAKE	
320-39023-28 - DL	KLA04-SB1-02	Total/NA	Solid	SHAKE	
320-39023-28 - DL2	KLA04-SB1-02	Total/NA	Solid	SHAKE	
320-39023-28	KLA04-SB1-02	Total/NA	Solid	SHAKE	
320-39023-29 - DL	KLA04-SB2-01	Total/NA	Solid	SHAKE	
320-39023-29	KLA04-SB2-01	Total/NA	Solid	SHAKE	
320-39023-30 - DL	KLA04-SB2-02	Total/NA	Solid	SHAKE	
320-39023-30	KLA04-SB2-02	Total/NA	Solid	SHAKE	
320-39023-31	KLA04-SB3-01	Total/NA	Solid	SHAKE	
320-39023-31 - DL2	KLA04-SB3-01	Total/NA	Solid	SHAKE	
320-39023-31 - DL	KLA04-SB3-01	Total/NA	Solid	SHAKE	
320-39023-32 - DL	KLA04-SB3-02	Total/NA	Solid	SHAKE	
320-39023-32	KLA04-SB3-02	Total/NA	Solid	SHAKE	
320-39023-32 - DL2	KLA04-SB3-02	Total/NA	Solid	SHAKE	
320-39023-33	KLA05-SB1-01	Total/NA	Solid	SHAKE	
320-39023-33 - DL	KLA05-SB1-01	Total/NA	Solid	SHAKE	
320-39023-34	KLA05-SB1-02	Total/NA	Solid	SHAKE	
320-39023-35 - DL	KLA05-SB2-01	Total/NA	Solid	SHAKE	
320-39023-35	KLA05-SB2-01	Total/NA	Solid	SHAKE	
320-39023-36 - DL	KLA05-SB2-02	Total/NA	Solid	SHAKE	
320-39023-36	KLA05-SB2-02	Total/NA	Solid	SHAKE	
320-39023-37 - DL	KLA05-SB3-01	Total/NA	Solid	SHAKE	
320-39023-37	KLA05-SB3-01	Total/NA	Solid	SHAKE	
320-39023-38	KLA05-SB3-02	Total/NA	Solid	SHAKE	
320-39023-38 - DL	KLA05-SB3-02	Total/NA	Solid	SHAKE	
320-39023-53 - DL	KLA02-SB2-02D	Total/NA	Solid	SHAKE	
320-39023-53	KLA02-SB2-02D	Total/NA	Solid	SHAKE	
320-39023-54	KLA02-SB1-02D	Total/NA	Solid	SHAKE	
MB 320-223092/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-223092/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-39023-15 MS	KLA02-SB1-01	Total/NA	Solid	SHAKE	
320-39023-15 MSD	KLA02-SB1-01	Total/NA	Solid	SHAKE	

### Prep Batch: 223346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-44	ER-01	Total/NA	Water	3535	

TestAmerica Sacramento



# QC Association Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## LCMS (Continued)

### Prep Batch: 223346 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-45	FB-01	Total/NA	Water	3535	
MB 320-223346/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-223346/2-A	Lab Control Sample	Total/NA	Water	3535	

### Prep Batch: 223615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-46	ER-02	Total/NA	Water	3535	
MB 320-223615/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-223615/2-A	Lab Control Sample	Total/NA	Water	3535	

### Prep Batch: 223901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-47	ER-03	Total/NA	Water	3535	
320-39023-48	ER-04	Total/NA	Water	3535	
MB 320-223901/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-223901/2-A	Lab Control Sample	Total/NA	Water	3535	

### Prep Batch: 224065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-1 - DL	MW-KLA01-01-01	Total/NA	Water	3535	
320-39023-1	MW-KLA01-01-01	Total/NA	Water	3535	
320-39023-2 - DL	MW-KLA02-01-01	Total/NA	Water	3535	
320-39023-2	MW-KLA02-01-01	Total/NA	Water	3535	
320-39023-3	MW-KLA03-01-01	Total/NA	Water	3535	
320-39023-3 - DL	MW-KLA03-01-01	Total/NA	Water	3535	
320-39023-4 - DL	MW-KLA04-01-01	Total/NA	Water	3535	
320-39023-4	MW-KLA04-01-01	Total/NA	Water	3535	
320-39023-5 - DL	MW-573-03-PRL05-01	Total/NA	Water	3535	
320-39023-5	MW-573-03-PRL05-01	Total/NA	Water	3535	
320-39023-6 - DL	MW-572-02-PRL05-01	Total/NA	Water	3535	
320-39023-6	MW-572-02-PRL05-01	Total/NA	Water	3535	
320-39023-7 - DL2	MW-KLA06-01-01	Total/NA	Water	3535	
320-39023-7	MW-KLA06-01-01	Total/NA	Water	3535	
320-39023-49	MW-572-02-PRL05-01D	Total/NA	Water	3535	
320-39023-49 - DL	MW-572-02-PRL05-01D	Total/NA	Water	3535	
320-39023-56	ER-05	Total/NA	Water	3535	
MB 320-224065/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-224065/2-A	Lab Control Sample	Total/NA	Water	3535	
320-39023-5 MS	MW-573-03-PRL05-01	Total/NA	Water	3535	
320-39023-5 MS - DL	MW-573-03-PRL05-01	Total/NA	Water	3535	
320-39023-5 MSD - DL	MW-573-03-PRL05-01	Total/NA	Water	3535	
320-39023-5 MSD	MW-573-03-PRL05-01	Total/NA	Water	3535	

### Analysis Batch: 224205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-45	FB-01	Total/NA	Water	EPA 537 (Mod)	223346
MB 320-223346/1-A	Method Blank	Total/NA	Water	EPA 537 (Mod)	223346
LCS 320-223346/2-A	Lab Control Sample	Total/NA	Water	EPA 537 (Mod)	223346

TestAmerica Sacramento

# QC Association Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## LCMS (Continued)

### Prep Batch: 224254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-59	KLA07-SD1-01D	Total/NA	Solid	SHAKE	
MB 320-224254/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-224254/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-39023-59 MS	KLA07-SD1-01D	Total/NA	Solid	SHAKE	
320-39023-59 MSD	KLA07-SD1-01D	Total/NA	Solid	SHAKE	

### Prep Batch: 224509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-8	KLA08-SW1-01	Total/NA	Water	3535	
MB 320-224509/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-224509/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-224509/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

### Analysis Batch: 224542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-44	ER-01	Total/NA	Water	EPA 537 (Mod)	223346

### Analysis Batch: 225690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-47	ER-03	Total/NA	Water	EPA 537 (Mod)	223901
320-39023-48	ER-04	Total/NA	Water	EPA 537 (Mod)	223901
MB 320-223901/1-A	Method Blank	Total/NA	Water	EPA 537 (Mod)	223901
LCS 320-223901/2-A	Lab Control Sample	Total/NA	Water	EPA 537 (Mod)	223901

### Analysis Batch: 225818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-46	ER-02	Total/NA	Water	EPA 537 (Mod)	223615
MB 320-223615/1-A	Method Blank	Total/NA	Water	EPA 537 (Mod)	223615
LCS 320-223615/2-A	Lab Control Sample	Total/NA	Water	EPA 537 (Mod)	223615

### Analysis Batch: 225820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-1	MW-KLA01-01-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-2	MW-KLA02-01-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-3	MW-KLA03-01-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-5	MW-573-03-PRL05-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-6	MW-572-02-PRL05-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-7	MW-KLA06-01-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-49	MW-572-02-PRL05-01D	Total/NA	Water	EPA 537 (Mod)	224065
MB 320-224065/1-A	Method Blank	Total/NA	Water	EPA 537 (Mod)	224065
LCS 320-224065/2-A	Lab Control Sample	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-5 MS	MW-573-03-PRL05-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-5 MSD	MW-573-03-PRL05-01	Total/NA	Water	EPA 537 (Mod)	224065

### Analysis Batch: 225894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-9	KLA-01-SB1-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-10	KLA-01-SB1-02	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-11	KLA-01-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-12	KLA-01-SB2-02	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-13	KLA-01-SB3-01	Total/NA	Solid	EPA 537 (Mod)	223091

TestAmerica Sacramento

# QC Association Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## LCMS (Continued)

### Analysis Batch: 225894 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-14	KLA-01-SB3-02	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-21	KLA03-SB1-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-22	KLA03-SB1-02	Total/NA	Solid	EPA 537 (Mod)	223091
MB 320-223091/1-A	Method Blank	Total/NA	Solid	EPA 537 (Mod)	223091
LCS 320-223091/2-A	Lab Control Sample	Total/NA	Solid	EPA 537 (Mod)	223091

### Analysis Batch: 225899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-15	KLA02-SB1-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-16	KLA02-SB1-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-17	KLA02-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-18	KLA02-SB2-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-19	KLA02-SB3-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-20	KLA02-SB3-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-27	KLA04-SB1-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-28	KLA04-SB1-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-29	KLA04-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-30	KLA04-SB2-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-31	KLA04-SB3-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-32	KLA04-SB3-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-33	KLA05-SB1-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-35	KLA05-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-36	KLA05-SB2-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-37	KLA05-SB3-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-38	KLA05-SB3-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-53	KLA02-SB2-02D	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-54	KLA02-SB1-02D	Total/NA	Solid	EPA 537 (Mod)	223092
MB 320-223092/1-A	Method Blank	Total/NA	Solid	EPA 537 (Mod)	223092
LCS 320-223092/2-A	Lab Control Sample	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-15 MS	KLA02-SB1-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-15 MSD	KLA02-SB1-01	Total/NA	Solid	EPA 537 (Mod)	223092

### Analysis Batch: 226044

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-9 - DL	KLA-01-SB1-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-10 - DL	KLA-01-SB1-02	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-39 - DL	KLA06-SB1-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-40 - DL	KLA06-SB1-02	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-41 - DL2	KLA06-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-41 - DL	KLA06-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-42 - DL2	KLA06-SB2-02	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-42 - DL	KLA06-SB2-02	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-52 - DL2	KLA06-SB-2-02D	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-52 - DL	KLA06-SB-2-02D	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-55 - DL	KLA05-SB1-01D	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-41 MS - DL2	KLA06-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-41 MS - DL	KLA06-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-41 MSD - DL2	KLA06-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-41 MSD - DL	KLA06-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223091

# QC Association Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## LCMS (Continued)

### Analysis Batch: 226051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-17 - DL	KLA02-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-18 - DL	KLA02-SB2-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-19 - DL	KLA02-SB3-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-27 - DL	KLA04-SB1-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-28 - DL2	KLA04-SB1-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-28 - DL	KLA04-SB1-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-29 - DL	KLA04-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-30 - DL	KLA04-SB2-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-31 - DL2	KLA04-SB3-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-31 - DL	KLA04-SB3-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-32 - DL2	KLA04-SB3-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-32 - DL	KLA04-SB3-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-33 - DL	KLA05-SB1-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-34	KLA05-SB1-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-35 - DL	KLA05-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-36 - DL	KLA05-SB2-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-37 - DL	KLA05-SB3-01	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-38 - DL	KLA05-SB3-02	Total/NA	Solid	EPA 537 (Mod)	223092
320-39023-53 - DL	KLA02-SB2-02D	Total/NA	Solid	EPA 537 (Mod)	223092

### Analysis Batch: 226055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-1 - DL	MW-KLA01-01-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-2 - DL	MW-KLA02-01-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-3 - DL	MW-KLA03-01-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-4 - DL	MW-KLA04-01-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-4	MW-KLA04-01-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-5 - DL	MW-573-03-PRL05-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-6 - DL	MW-572-02-PRL05-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-7 - DL2	MW-KLA06-01-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-49 - DL	MW-572-02-PRL05-01D	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-56	ER-05	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-5 MS - DL	MW-573-03-PRL05-01	Total/NA	Water	EPA 537 (Mod)	224065
320-39023-5 MSD - DL	MW-573-03-PRL05-01	Total/NA	Water	EPA 537 (Mod)	224065

### Analysis Batch: 226343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-59	KLA07-SD1-01D	Total/NA	Solid	EPA 537 (Mod)	224254
MB 320-224254/1-A	Method Blank	Total/NA	Solid	EPA 537 (Mod)	224254
LCS 320-224254/2-A	Lab Control Sample	Total/NA	Solid	EPA 537 (Mod)	224254
320-39023-59 MS	KLA07-SD1-01D	Total/NA	Solid	EPA 537 (Mod)	224254
320-39023-59 MSD	KLA07-SD1-01D	Total/NA	Solid	EPA 537 (Mod)	224254

### Analysis Batch: 226349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-8	KLA08-SW1-01	Total/NA	Water	EPA 537 (Mod)	224509
MB 320-224509/1-A	Method Blank	Total/NA	Water	EPA 537 (Mod)	224509
LCS 320-224509/2-A	Lab Control Sample	Total/NA	Water	EPA 537 (Mod)	224509
LCSD 320-224509/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 537 (Mod)	224509

TestAmerica Sacramento

# QC Association Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## LCMS (Continued)

### Analysis Batch: 227681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-23	KLA03-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-24	KLA03-SB2-02	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-25	KLA03-SB3-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-26	KLA03-SB3-02	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-39	KLA06-SB1-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-40	KLA06-SB1-02	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-41	KLA06-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-42	KLA06-SB2-02	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-43	KLA07-SD1-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-51	KLA03-SB-2-01D	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-52	KLA06-SB-2-02D	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-55	KLA05-SB1-01D	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-41 MS	KLA06-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223091
320-39023-41 MSD	KLA06-SB2-01	Total/NA	Solid	EPA 537 (Mod)	223091

## General Chemistry

### Analysis Batch: 223303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-21	KLA03-SB1-01	Total/NA	Solid	D 2216	
320-39023-22	KLA03-SB1-02	Total/NA	Solid	D 2216	
320-39023-25	KLA03-SB3-01	Total/NA	Solid	D 2216	
320-39023-26	KLA03-SB3-02	Total/NA	Solid	D 2216	
320-39023-39	KLA06-SB1-01	Total/NA	Solid	D 2216	
320-39023-40	KLA06-SB1-02	Total/NA	Solid	D 2216	
320-39023-41	KLA06-SB2-01	Total/NA	Solid	D 2216	
320-39023-42	KLA06-SB2-02	Total/NA	Solid	D 2216	
320-39023-52	KLA06-SB-2-02D	Total/NA	Solid	D 2216	
320-39023-41 DU	KLA06-SB2-01	Total/NA	Solid	D 2216	

### Analysis Batch: 223400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-9	KLA-01-SB1-01	Total/NA	Solid	D 2216	
320-39023-10	KLA-01-SB1-02	Total/NA	Solid	D 2216	
320-39023-11	KLA-01-SB2-01	Total/NA	Solid	D 2216	
320-39023-12	KLA-01-SB2-02	Total/NA	Solid	D 2216	
320-39023-13	KLA-01-SB3-01	Total/NA	Solid	D 2216	
320-39023-14	KLA-01-SB3-02	Total/NA	Solid	D 2216	
320-39023-15	KLA02-SB1-01	Total/NA	Solid	D 2216	
320-39023-16	KLA02-SB1-02	Total/NA	Solid	D 2216	
320-39023-17	KLA02-SB2-01	Total/NA	Solid	D 2216	
320-39023-18	KLA02-SB2-02	Total/NA	Solid	D 2216	
320-39023-19	KLA02-SB3-01	Total/NA	Solid	D 2216	
320-39023-20	KLA02-SB3-02	Total/NA	Solid	D 2216	
320-39023-23	KLA03-SB2-01	Total/NA	Solid	D 2216	
320-39023-24	KLA03-SB2-02	Total/NA	Solid	D 2216	
320-39023-27	KLA04-SB1-01	Total/NA	Solid	D 2216	
320-39023-28	KLA04-SB1-02	Total/NA	Solid	D 2216	
320-39023-29	KLA04-SB2-01	Total/NA	Solid	D 2216	
320-39023-30	KLA04-SB2-02	Total/NA	Solid	D 2216	

TestAmerica Sacramento



# QC Association Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## General Chemistry (Continued)

### Analysis Batch: 223400 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-31	KLA04-SB3-01	Total/NA	Solid	D 2216	
320-39023-9 DU	KLA-01-SB1-01	Total/NA	Solid	D 2216	

### Analysis Batch: 223408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-32	KLA04-SB3-02	Total/NA	Solid	D 2216	
320-39023-33	KLA05-SB1-01	Total/NA	Solid	D 2216	
320-39023-34	KLA05-SB1-02	Total/NA	Solid	D 2216	
320-39023-35	KLA05-SB2-01	Total/NA	Solid	D 2216	
320-39023-36	KLA05-SB2-02	Total/NA	Solid	D 2216	
320-39023-37	KLA05-SB3-01	Total/NA	Solid	D 2216	
320-39023-38	KLA05-SB3-02	Total/NA	Solid	D 2216	
320-39023-43	KLA07-SD1-01	Total/NA	Solid	D 2216	
320-39023-51	KLA03-SB-2-01D	Total/NA	Solid	D 2216	
320-39023-53	KLA02-SB2-02D	Total/NA	Solid	D 2216	
320-39023-54	KLA02-SB1-02D	Total/NA	Solid	D 2216	
320-39023-55	KLA05-SB1-01D	Total/NA	Solid	D 2216	
320-39023-32 DU	KLA04-SB3-02	Total/NA	Solid	D 2216	

### Analysis Batch: 224540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-39023-59	KLA07-SD1-01D	Total/NA	Solid	D 2216	

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-KLA01-01-01**

**Date Collected: 05/06/18 14:50**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-1**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225820	05/28/18 11:18	S1M	TAL SAC
Total/NA	Prep	3535	DL		224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	5	226055	05/29/18 18:41	S1M	TAL SAC

**Client Sample ID: MW-KLA02-01-01**

**Date Collected: 05/06/18 12:05**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-2**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225820	05/28/18 11:26	S1M	TAL SAC
Total/NA	Prep	3535	DL		224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	100	226055	05/29/18 18:49	S1M	TAL SAC

**Client Sample ID: MW-KLA03-01-01**

**Date Collected: 05/06/18 15:55**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-3**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225820	05/28/18 11:34	S1M	TAL SAC
Total/NA	Prep	3535	DL		224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	50	226055	05/29/18 19:04	S1M	TAL SAC

**Client Sample ID: MW-KLA04-01-01**

**Date Collected: 05/06/18 14:15**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-4**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	DL		224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	5	226055	05/29/18 19:12	S1M	TAL SAC
Total/NA	Prep	3535			224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	226055	05/29/18 19:20	S1M	TAL SAC

**Client Sample ID: MW-573-03-PRL05-01**

**Date Collected: 05/06/18 09:15**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-5**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225820	05/28/18 11:50	S1M	TAL SAC
Total/NA	Prep	3535	DL		224065	05/18/18 10:26	SK	TAL SAC

TestAmerica Sacramento

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: MW-573-03-PRL05-01**

**Date Collected: 05/06/18 09:15**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-5**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 537 (Mod)	DL	100	226055	05/29/18 19:28	S1M	TAL SAC

**Client Sample ID: MW-572-02-PRL05-01**

**Date Collected: 05/06/18 10:30**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-6**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225820	05/28/18 12:13	S1M	TAL SAC
Total/NA	Prep	3535	DL		224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	10	226055	05/29/18 20:07	S1M	TAL SAC

**Client Sample ID: MW-KLA06-01-01**

**Date Collected: 05/06/18 13:15**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-7**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225820	05/28/18 12:29	S1M	TAL SAC
Total/NA	Prep	3535	DL2		224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL2	100	226055	05/29/18 20:31	S1M	TAL SAC

**Client Sample ID: KLA08-SW1-01**

**Date Collected: 05/07/18 08:30**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-8**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			224509	05/21/18 12:01	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	226349	05/31/18 04:51	JRB	TAL SAC

**Client Sample ID: KLA-01-SB1-01**

**Date Collected: 05/02/18 14:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-9**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: KLA-01-SB1-01

Date Collected: 05/02/18 14:00

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-9

Matrix: Solid

Percent Solids: 79.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225894	05/29/18 03:32	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	20	226044	05/29/18 11:07	S1M	TAL SAC

## Client Sample ID: KLA-01-SB1-02

Date Collected: 05/02/18 14:10

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

## Client Sample ID: KLA-01-SB1-02

Date Collected: 05/02/18 14:10

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-10

Matrix: Solid

Percent Solids: 77.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225894	05/29/18 03:40	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	20	226044	05/29/18 11:15	S1M	TAL SAC

## Client Sample ID: KLA-01-SB2-01

Date Collected: 05/02/18 13:15

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-11

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

## Client Sample ID: KLA-01-SB2-01

Date Collected: 05/02/18 13:15

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-11

Matrix: Solid

Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225894	05/29/18 03:48	S1M	TAL SAC

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA-01-SB2-02**

**Date Collected: 05/02/18 13:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-12**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA-01-SB2-02**

**Date Collected: 05/02/18 13:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-12**

**Matrix: Solid**

**Percent Solids: 75.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225894	05/29/18 03:56	S1M	TAL SAC

**Client Sample ID: KLA-01-SB3-01**

**Date Collected: 05/02/18 14:25**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-13**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA-01-SB3-01**

**Date Collected: 05/02/18 14:25**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-13**

**Matrix: Solid**

**Percent Solids: 77.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225894	05/29/18 04:04	S1M	TAL SAC

**Client Sample ID: KLA-01-SB3-02**

**Date Collected: 05/02/18 14:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-14**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA-01-SB3-02**

**Date Collected: 05/02/18 14:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-14**

**Matrix: Solid**

**Percent Solids: 78.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225894	05/29/18 04:12	S1M	TAL SAC

TestAmerica Sacramento



# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA02-SB1-01**

**Date Collected: 05/04/18 13:40**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-15**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA02-SB1-01**

**Date Collected: 05/04/18 13:40**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-15**

**Matrix: Solid**

**Percent Solids: 77.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 07:43	S1M	TAL SAC

**Client Sample ID: KLA02-SB1-02**

**Date Collected: 05/04/18 13:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-16**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA02-SB1-02**

**Date Collected: 05/04/18 13:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-16**

**Matrix: Solid**

**Percent Solids: 80.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 08:07	S1M	TAL SAC

**Client Sample ID: KLA02-SB2-01**

**Date Collected: 05/04/18 13:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-17**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA02-SB2-01**

**Date Collected: 05/04/18 13:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-17**

**Matrix: Solid**

**Percent Solids: 79.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 08:14	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	100	226051	05/29/18 15:02	D1R	TAL SAC

TestAmerica Sacramento

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA02-SB2-02**

**Date Collected: 05/04/18 13:25**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-18**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA02-SB2-02**

**Date Collected: 05/04/18 13:25**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-18**

**Matrix: Solid**

**Percent Solids: 59.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 08:22	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	20	226051	05/29/18 17:07	D1R	TAL SAC

**Client Sample ID: KLA02-SB3-01**

**Date Collected: 05/04/18 13:55**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-19**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA02-SB3-01**

**Date Collected: 05/04/18 13:55**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-19**

**Matrix: Solid**

**Percent Solids: 83.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 08:30	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	20	226051	05/29/18 14:30	D1R	TAL SAC

**Client Sample ID: KLA02-SB3-02**

**Date Collected: 05/04/18 14:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-20**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA02-SB3-02**

**Date Collected: 05/04/18 14:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-20**

**Matrix: Solid**

**Percent Solids: 72.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC

TestAmerica Sacramento

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA02-SB3-02**

**Date Collected: 05/04/18 14:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-20**

**Matrix: Solid**

**Percent Solids: 72.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 08:38	S1M	TAL SAC

**Client Sample ID: KLA03-SB1-01**

**Date Collected: 05/01/18 09:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-21**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223303	05/15/18 13:00	TCS	TAL SAC

**Client Sample ID: KLA03-SB1-01**

**Date Collected: 05/01/18 09:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-21**

**Matrix: Solid**

**Percent Solids: 77.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225894	05/29/18 04:19	S1M	TAL SAC

**Client Sample ID: KLA03-SB1-02**

**Date Collected: 05/01/18 09:05**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-22**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223303	05/15/18 13:00	TCS	TAL SAC

**Client Sample ID: KLA03-SB1-02**

**Date Collected: 05/01/18 09:05**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-22**

**Matrix: Solid**

**Percent Solids: 74.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225894	05/29/18 04:27	S1M	TAL SAC

**Client Sample ID: KLA03-SB2-01**

**Date Collected: 05/02/18 12:15**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-23**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

TestAmerica Sacramento

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: KLA03-SB2-01

Date Collected: 05/02/18 12:15

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-23

Matrix: Solid

Percent Solids: 81.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	227681	06/06/18 22:47	S1M	TAL SAC

## Client Sample ID: KLA03-SB2-02

Date Collected: 05/02/18 12:20

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-24

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

## Client Sample ID: KLA03-SB2-02

Date Collected: 05/02/18 12:20

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-24

Matrix: Solid

Percent Solids: 77.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	227681	06/06/18 22:55	S1M	TAL SAC

## Client Sample ID: KLA03-SB3-01

Date Collected: 05/01/18 08:45

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-25

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223303	05/15/18 13:00	TCS	TAL SAC

## Client Sample ID: KLA03-SB3-01

Date Collected: 05/01/18 08:45

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-25

Matrix: Solid

Percent Solids: 74.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	227681	06/06/18 23:03	S1M	TAL SAC

## Client Sample ID: KLA03-SB3-02

Date Collected: 05/01/18 08:50

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-26

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223303	05/15/18 13:00	TCS	TAL SAC

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA03-SB3-02**

**Date Collected: 05/01/18 08:50**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-26**

**Matrix: Solid**

**Percent Solids: 73.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	227681	06/06/18 23:10	S1M	TAL SAC

**Client Sample ID: KLA04-SB1-01**

**Date Collected: 05/04/18 08:35**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-27**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA04-SB1-01**

**Date Collected: 05/04/18 08:35**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-27**

**Matrix: Solid**

**Percent Solids: 72.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 08:54	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	100	226051	05/29/18 15:33	D1R	TAL SAC

**Client Sample ID: KLA04-SB1-02**

**Date Collected: 05/04/18 08:40**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-28**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA04-SB1-02**

**Date Collected: 05/04/18 08:40**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-28**

**Matrix: Solid**

**Percent Solids: 77.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 09:02	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL2		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL2	100	226051	05/29/18 15:41	D1R	TAL SAC
Total/NA	Prep	SHAKE	DL		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	20	226051	05/29/18 17:15	D1R	TAL SAC



# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA04-SB2-01**

**Date Collected: 05/04/18 08:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-29**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA04-SB2-01**

**Date Collected: 05/04/18 08:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-29**

**Matrix: Solid**

**Percent Solids: 78.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 09:09	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	100	226051	05/29/18 15:49	D1R	TAL SAC

**Client Sample ID: KLA04-SB2-02**

**Date Collected: 05/04/18 08:25**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-30**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA04-SB2-02**

**Date Collected: 05/04/18 08:25**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-30**

**Matrix: Solid**

**Percent Solids: 76.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 09:17	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	100	226051	05/29/18 15:57	D1R	TAL SAC

**Client Sample ID: KLA04-SB3-01**

**Date Collected: 05/04/18 08:05**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-31**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223400	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA04-SB3-01**

**Date Collected: 05/04/18 08:05**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-31**

**Matrix: Solid**

**Percent Solids: 78.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC

TestAmerica Sacramento

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA04-SB3-01**

**Date Collected: 05/04/18 08:05**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-31**

**Matrix: Solid**

**Percent Solids: 78.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 09:25	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL2		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL2	100	226051	05/29/18 16:12	D1R	TAL SAC
Total/NA	Prep	SHAKE	DL		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	20	226051	05/29/18 17:23	D1R	TAL SAC

**Client Sample ID: KLA04-SB3-02**

**Date Collected: 05/04/18 08:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-32**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223408	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA04-SB3-02**

**Date Collected: 05/04/18 08:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-32**

**Matrix: Solid**

**Percent Solids: 65.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 09:33	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL2		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL2	100	226051	05/29/18 16:20	D1R	TAL SAC
Total/NA	Prep	SHAKE	DL		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	20	226051	05/29/18 17:31	D1R	TAL SAC

**Client Sample ID: KLA05-SB1-01**

**Date Collected: 05/05/18 09:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-33**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223408	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA05-SB1-01**

**Date Collected: 05/05/18 09:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-33**

**Matrix: Solid**

**Percent Solids: 79.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 09:41	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	20	226051	05/29/18 14:38	D1R	TAL SAC

TestAmerica Sacramento

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA05-SB1-02**

**Date Collected: 05/05/18 09:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-34**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223408	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA05-SB1-02**

**Date Collected: 05/05/18 09:10**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-34**

**Matrix: Solid**

**Percent Solids: 78.5**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	226051	05/29/18 14:15	D1R	TAL SAC

**Client Sample ID: KLA05-SB2-01**

**Date Collected: 05/05/18 09:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-35**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223408	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA05-SB2-01**

**Date Collected: 05/05/18 09:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-35**

**Matrix: Solid**

**Percent Solids: 85.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 09:56	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	10	226051	05/29/18 14:46	D1R	TAL SAC

**Client Sample ID: KLA05-SB2-02**

**Date Collected: 05/05/18 09:40**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-36**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223408	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA05-SB2-02**

**Date Collected: 05/05/18 09:40**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-36**

**Matrix: Solid**

**Percent Solids: 75.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 10:04	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223092	05/14/18 14:03	HJA	TAL SAC

TestAmerica Sacramento

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: KLA05-SB2-02

Date Collected: 05/05/18 09:40

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-36

Matrix: Solid

Percent Solids: 75.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 537 (Mod)	DL	10	226051	05/29/18 14:54	D1R	TAL SAC

## Client Sample ID: KLA05-SB3-01

Date Collected: 05/05/18 10:10

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-37

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223408	05/15/18 16:20	JCB	TAL SAC

## Client Sample ID: KLA05-SB3-01

Date Collected: 05/05/18 10:10

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-37

Matrix: Solid

Percent Solids: 83.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 10:20	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	100	226051	05/29/18 16:28	D1R	TAL SAC

## Client Sample ID: KLA05-SB3-02

Date Collected: 05/05/18 10:20

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-38

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223408	05/15/18 16:20	JCB	TAL SAC

## Client Sample ID: KLA05-SB3-02

Date Collected: 05/05/18 10:20

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-38

Matrix: Solid

Percent Solids: 80.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 10:28	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	100	226051	05/29/18 16:44	D1R	TAL SAC

## Client Sample ID: KLA06-SB1-01

Date Collected: 05/01/18 14:15

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-39

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223303	05/15/18 13:00	TCS	TAL SAC

TestAmerica Sacramento

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA06-SB1-01**

**Date Collected: 05/01/18 14:15**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-39**

**Matrix: Solid**

**Percent Solids: 73.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	20	226044	05/29/18 11:30	S1M	TAL SAC
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	227681	06/06/18 23:18	S1M	TAL SAC

**Client Sample ID: KLA06-SB1-02**

**Date Collected: 05/01/18 14:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-40**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223303	05/15/18 13:00	TCS	TAL SAC

**Client Sample ID: KLA06-SB1-02**

**Date Collected: 05/01/18 14:20**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-40**

**Matrix: Solid**

**Percent Solids: 79.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	20	226044	05/29/18 11:38	S1M	TAL SAC
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	227681	06/06/18 23:26	S1M	TAL SAC

**Client Sample ID: KLA06-SB2-01**

**Date Collected: 05/01/18 13:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-41**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223303	05/15/18 13:00	TCS	TAL SAC

**Client Sample ID: KLA06-SB2-01**

**Date Collected: 05/01/18 13:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-41**

**Matrix: Solid**

**Percent Solids: 63.5**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL2		223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL2	100	226044	05/29/18 12:02	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	10	226044	05/29/18 12:49	S1M	TAL SAC
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	227681	06/06/18 23:34	S1M	TAL SAC



# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA06-SB2-02**

**Date Collected: 05/01/18 13:50**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-42**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223303	05/15/18 13:00	TCS	TAL SAC

**Client Sample ID: KLA06-SB2-02**

**Date Collected: 05/01/18 13:50**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-42**

**Matrix: Solid**

**Percent Solids: 70.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL2		223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL2	100	226044	05/29/18 12:25	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	10	226044	05/29/18 13:28	S1M	TAL SAC
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	227681	06/07/18 00:13	S1M	TAL SAC

**Client Sample ID: KLA07-SD1-01**

**Date Collected: 05/06/18 11:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-43**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223408	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA07-SD1-01**

**Date Collected: 05/06/18 11:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-43**

**Matrix: Solid**

**Percent Solids: 92.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	227681	06/07/18 00:52	S1M	TAL SAC

**Client Sample ID: ER-01**

**Date Collected: 05/01/18 15:30**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-44**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			223346	05/15/18 12:48	TWL	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	224542	05/21/18 14:03	JRB	TAL SAC

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

## Client Sample ID: FB-01

Date Collected: 05/01/18 15:50

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-45

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			223346	05/15/18 12:48	TWL	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	224205	05/19/18 06:46	S1M	TAL SAC

## Client Sample ID: ER-02

Date Collected: 05/02/18 09:40

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-46

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			223615	05/16/18 14:51	AME	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225818	05/28/18 09:29	D1R	TAL SAC

## Client Sample ID: ER-03

Date Collected: 05/03/18 10:30

Date Received: 05/08/18 09:00

## Lab Sample ID: 320-39023-47

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			223901	05/17/18 14:42	AME	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225690	05/25/18 23:59	JRB	TAL SAC

## Client Sample ID: ER-04

Date Collected: 05/04/18 11:00

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			223901	05/17/18 14:42	AME	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225690	05/26/18 00:15	JRB	TAL SAC

## Client Sample ID: MW-572-02-PRL05-01D

Date Collected: 05/06/18 10:30

Date Received: 05/08/18 09:00

## Lab Sample ID: 320-39023-49

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225820	05/28/18 12:37	S1M	TAL SAC
Total/NA	Prep	3535	DL		224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	10	226055	05/29/18 20:54	S1M	TAL SAC

## Client Sample ID: KLA03-SB-2-01D

Date Collected: 05/02/18 12:15

Date Received: 05/09/18 09:20

## Lab Sample ID: 320-39023-51

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223408	05/15/18 16:20	JCB	TAL SAC

TestAmerica Sacramento

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA03-SB-2-01D**

**Date Collected: 05/02/18 12:15**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-51**

**Matrix: Solid**

**Percent Solids: 78.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	227681	06/07/18 01:00	S1M	TAL SAC

**Client Sample ID: KLA06-SB-2-02D**

**Date Collected: 05/01/18 13:50**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-52**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223303	05/15/18 13:00	TCS	TAL SAC

**Client Sample ID: KLA06-SB-2-02D**

**Date Collected: 05/01/18 13:50**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-52**

**Matrix: Solid**

**Percent Solids: 67.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL2		223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL2	100	226044	05/29/18 12:33	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	10	226044	05/29/18 13:36	S1M	TAL SAC
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	227681	06/07/18 00:21	S1M	TAL SAC

**Client Sample ID: KLA02-SB2-02D**

**Date Collected: 05/04/18 13:25**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-53**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223408	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA02-SB2-02D**

**Date Collected: 05/04/18 13:25**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-53**

**Matrix: Solid**

**Percent Solids: 59.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 10:36	S1M	TAL SAC
Total/NA	Prep	SHAKE	DL		223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	20	226051	05/29/18 17:38	D1R	TAL SAC

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: KLA02-SB1-02D**

**Date Collected: 05/04/18 13:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-54**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223408	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA02-SB1-02D**

**Date Collected: 05/04/18 13:45**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-54**

**Matrix: Solid**

**Percent Solids: 75.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			223092	05/14/18 14:03	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	225899	05/29/18 10:43	S1M	TAL SAC

**Client Sample ID: KLA05-SB1-01D**

**Date Collected: 05/05/18 09:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-55**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	223408	05/15/18 16:20	JCB	TAL SAC

**Client Sample ID: KLA05-SB1-01D**

**Date Collected: 05/05/18 09:00**

**Date Received: 05/09/18 09:20**

**Lab Sample ID: 320-39023-55**

**Matrix: Solid**

**Percent Solids: 82.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)	DL	100	226044	05/29/18 12:41	S1M	TAL SAC
Total/NA	Prep	SHAKE			223091	05/14/18 13:10	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	227681	06/07/18 00:29	S1M	TAL SAC

**Client Sample ID: ER-05**

**Date Collected: 05/06/18 16:00**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-56**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			224065	05/18/18 10:26	SK	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	226055	05/29/18 21:18	S1M	TAL SAC

**Client Sample ID: IDW-KINGSLEY-SO-LDOS01**

**Date Collected: 05/07/18 09:45**

**Date Received: 05/08/18 09:00**

**Lab Sample ID: 320-39023-57**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			415139	05/16/18 16:32	DFB1	TAL DEN
TCLP	Analysis	8260B		1	416517	05/29/18 15:26	TAW	TAL DEN

TestAmerica Sacramento

# Lab Chronicle

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

**Client Sample ID: IDW-KINGSLEY-SO-LDOS01**

**Lab Sample ID: 320-39023-57**

**Date Collected: 05/07/18 09:45**

**Matrix: Solid**

**Date Received: 05/08/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			415138	05/16/18 16:32	DFB1	TAL DEN
TCLP	Prep	3510C			415600	05/21/18 08:55		TAL DEN
TCLP	Analysis	8270D		1	416357	05/25/18 21:36	AFH	TAL DEN

**Client Sample ID: IDW-KINGSLEY-WA-LDOS01**

**Lab Sample ID: 320-39023-58**

**Date Collected: 05/07/18 09:30**

**Matrix: Water**

**Date Received: 05/08/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			415294	05/17/18 17:42	DFB1	TAL DEN
TCLP	Analysis	8260B		1	415557	05/21/18 17:50	TAW	TAL DEN
TCLP	Leach	1311			415275	05/17/18 12:00	DFB1	TAL DEN
TCLP	Prep	3510C			416023	05/21/18 08:46		TAL DEN
TCLP	Analysis	8270D		1	416357	05/25/18 20:46	AFH	TAL DEN

**Client Sample ID: KLA07-SD1-01D**

**Lab Sample ID: 320-39023-59**

**Date Collected: 05/06/18 11:30**

**Matrix: Solid**

**Date Received: 05/08/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	224540	05/21/18 15:33	JCB	TAL SAC

**Client Sample ID: KLA07-SD1-01D**

**Lab Sample ID: 320-39023-59**

**Date Collected: 05/06/18 11:30**

**Matrix: Solid**

**Date Received: 05/08/18 09:00**

**Percent Solids: 73.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			224254	05/19/18 09:21	HJA	TAL SAC
Total/NA	Analysis	EPA 537 (Mod)		1	226343	05/31/18 02:30	JRB	TAL SAC

## Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Accreditation/Certification Summary

Client: Leidos, Inc.

TestAmerica Job ID: 320-39023-1

Project/Site: Phase III, ANG-Kingsley

## Laboratory: TestAmerica Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Oregon	NELAP	10	4040	01-29-19
Analysis Method	Prep Method	Matrix	Analyte	

## Laboratory: TestAmerica Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-19
A2LA	ISO/IEC 17025		2907.01	10-31-19
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	01-08-19
Arizona	State Program	9	AZ0713	12-20-18
Arkansas DEQ	State Program	6	88-0687	06-01-18 *
California	State Program	9	2513	01-18-19
Connecticut	State Program	1	PH-0686	09-30-18
Florida	NELAP	4	E87667	06-30-18
Georgia	State Program	4	N/A	01-08-19 *
Illinois	NELAP	5	200017	04-30-18 *
Iowa	State Program	7	370	12-01-18
Kansas	NELAP	7	E-10166	05-31-18 *
Louisiana	NELAP	6	02096	06-30-18
Maine	State Program	1	CO0002	03-03-19
Minnesota	NELAP	5	8-999-405	12-31-18
Nevada	State Program	9	CO0026	07-31-18
New Hampshire	NELAP	1	205310	04-28-19
New Jersey	NELAP	2	CO004	06-30-18
New York	NELAP	2	11964	04-01-19
North Carolina (WW/SW)	State Program	4	358	12-31-18
North Dakota	State Program	8	R-034	01-08-19
Oklahoma	State Program	6	8614	08-31-18
Oregon	NELAP	10	4025	01-08-19
Pennsylvania	NELAP	3	68-00664	07-31-18
South Carolina	State Program	4	72002001	01-08-19
Texas	NELAP	6	T104704183-17-14	09-30-18
USDA	Federal			03-26-21
Utah	NELAP	8	CO00026	07-31-18
Virginia	NELAP	3	460232	06-14-18
Washington	State Program	10	C583	08-03-18
West Virginia DEP	State Program	3	354	12-31-18
Wisconsin	State Program	5	999615430	08-31-18
Wyoming (UST)	A2LA	8	2907.01	10-31-19

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Sacramento

# Method Summary

Client: Leidos, Inc.

Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL DEN
EPA 537 (Mod)	PFAS for QSM 5.1, Table B-15	DOD 5.1	TAL SAC
D 2216	Percent Moisture	ASTM	TAL SAC
1311	TCLP Extraction	SW846	TAL DEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL DEN
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC
5030B	Purge and Trap	SW846	TAL DEN
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	TAL SAC

## Protocol References:

ASTM = ASTM International

DOD 5.1 = Department of Defense Quality Systems Manual V5.1

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

# Sample Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-39023-1	MW-KLA01-01-01	Water	05/06/18 14:50	05/08/18 09:00
320-39023-2	MW-KLA02-01-01	Water	05/06/18 12:05	05/09/18 09:20
320-39023-3	MW-KLA03-01-01	Water	05/06/18 15:55	05/08/18 09:00
320-39023-4	MW-KLA04-01-01	Water	05/06/18 14:15	05/08/18 09:00
320-39023-5	MW-573-03-PRL05-01	Water	05/06/18 09:15	05/08/18 09:00
320-39023-6	MW-572-02-PRL05-01	Water	05/06/18 10:30	05/08/18 09:00
320-39023-7	MW-KLA06-01-01	Water	05/06/18 13:15	05/08/18 09:00
320-39023-8	KLA08-SW1-01	Water	05/07/18 08:30	05/08/18 09:00
320-39023-9	KLA-01-SB1-01	Solid	05/02/18 14:00	05/09/18 09:20
320-39023-10	KLA-01-SB1-02	Solid	05/02/18 14:10	05/09/18 09:20
320-39023-11	KLA-01-SB2-01	Solid	05/02/18 13:15	05/09/18 09:20
320-39023-12	KLA-01-SB2-02	Solid	05/02/18 13:20	05/09/18 09:20
320-39023-13	KLA-01-SB3-01	Solid	05/02/18 14:25	05/09/18 09:20
320-39023-14	KLA-01-SB3-02	Solid	05/02/18 14:30	05/09/18 09:20
320-39023-15	KLA02-SB1-01	Solid	05/04/18 13:40	05/09/18 09:20
320-39023-16	KLA02-SB1-02	Solid	05/04/18 13:45	05/09/18 09:20
320-39023-17	KLA02-SB2-01	Solid	05/04/18 13:20	05/09/18 09:20
320-39023-18	KLA02-SB2-02	Solid	05/04/18 13:25	05/09/18 09:20
320-39023-19	KLA02-SB3-01	Solid	05/04/18 13:55	05/09/18 09:20
320-39023-20	KLA02-SB3-02	Solid	05/04/18 14:00	05/09/18 09:20
320-39023-21	KLA03-SB1-01	Solid	05/01/18 09:00	05/09/18 09:20
320-39023-22	KLA03-SB1-02	Solid	05/01/18 09:05	05/09/18 09:20
320-39023-23	KLA03-SB2-01	Solid	05/02/18 12:15	05/09/18 09:20
320-39023-24	KLA03-SB2-02	Solid	05/02/18 12:20	05/09/18 09:20
320-39023-25	KLA03-SB3-01	Solid	05/01/18 08:45	05/09/18 09:20
320-39023-26	KLA03-SB3-02	Solid	05/01/18 08:50	05/09/18 09:20
320-39023-27	KLA04-SB1-01	Solid	05/04/18 08:35	05/09/18 09:20
320-39023-28	KLA04-SB1-02	Solid	05/04/18 08:40	05/09/18 09:20
320-39023-29	KLA04-SB2-01	Solid	05/04/18 08:20	05/09/18 09:20
320-39023-30	KLA04-SB2-02	Solid	05/04/18 08:25	05/09/18 09:20
320-39023-31	KLA04-SB3-01	Solid	05/04/18 08:05	05/09/18 09:20
320-39023-32	KLA04-SB3-02	Solid	05/04/18 08:10	05/09/18 09:20
320-39023-33	KLA05-SB1-01	Solid	05/05/18 09:00	05/09/18 09:20
320-39023-34	KLA05-SB1-02	Solid	05/05/18 09:10	05/09/18 09:20
320-39023-35	KLA05-SB2-01	Solid	05/05/18 09:30	05/09/18 09:20
320-39023-36	KLA05-SB2-02	Solid	05/05/18 09:40	05/09/18 09:20
320-39023-37	KLA05-SB3-01	Solid	05/05/18 10:10	05/09/18 09:20
320-39023-38	KLA05-SB3-02	Solid	05/05/18 10:20	05/09/18 09:20
320-39023-39	KLA06-SB1-01	Solid	05/01/18 14:15	05/09/18 09:20
320-39023-40	KLA06-SB1-02	Solid	05/01/18 14:20	05/09/18 09:20
320-39023-41	KLA06-SB2-01	Solid	05/01/18 13:45	05/09/18 09:20
320-39023-42	KLA06-SB2-02	Solid	05/01/18 13:50	05/09/18 09:20
320-39023-43	KLA07-SD1-01	Solid	05/06/18 11:30	05/09/18 09:20
320-39023-44	ER-01	Water	05/01/18 15:30	05/09/18 09:20
320-39023-45	FB-01	Water	05/01/18 15:50	05/09/18 09:20
320-39023-46	ER-02	Water	05/02/18 09:40	05/09/18 09:20
320-39023-47	ER-03	Water	05/03/18 10:30	05/08/18 09:00
320-39023-48	ER-04	Water	05/04/18 11:00	05/09/18 09:20
320-39023-49	MW-572-02-PRL05-01D	Water	05/06/18 10:30	05/08/18 09:00
320-39023-51	KLA03-SB-2-01D	Solid	05/02/18 12:15	05/09/18 09:20
320-39023-52	KLA06-SB-2-02D	Solid	05/01/18 13:50	05/09/18 09:20
320-39023-53	KLA02-SB2-02D	Solid	05/04/18 13:25	05/09/18 09:20
320-39023-54	KLA02-SB1-02D	Solid	05/04/18 13:45	05/09/18 09:20

TestAmerica Sacramento

# Sample Summary

Client: Leidos, Inc.  
Project/Site: Phase III, ANG-Kingsley

TestAmerica Job ID: 320-39023-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-39023-55	KLA05-SB1-01D	Solid	05/05/18 09:00	05/09/18 09:20
320-39023-56	ER-05	Water	05/06/18 16:00	05/08/18 09:00
320-39023-57	IDW-KINGSLEY-SO-LDOS01	Solid	05/07/18 09:45	05/08/18 09:00
320-39023-58	IDW-KINGSLEY-WA-LDOS01	Water	05/07/18 09:30	05/08/18 09:00
320-39023-59	KLA07-SD1-01D	Solid	05/06/18 11:30	05/08/18 09:00

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N Analysis Batch Number: 223413

Lab Sample ID: IC 320-223413/2 Client Sample ID: \_\_\_\_\_

Date Analyzed: 05/15/18 15:13 Lab File ID: 2017.05.15LLB\_ICAL\_002.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanoic acid (PFHxA)	2.05	Peak assignment corrected	westendor fc	05/15/18 16:30
Perfluorononanoic acid (PFNA)	3.11	Split Peak	westendor fc	05/15/18 16:30

Lab Sample ID: IC 320-223413/3 Client Sample ID: \_\_\_\_\_

Date Analyzed: 05/15/18 15:21 Lab File ID: 2017.05.15LLB\_ICAL\_003.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	1.46	Baseline	westendor fc	05/15/18 16:30
Perfluoropentanoic acid (PFPeA)	1.75	Baseline	westendor fc	05/15/18 16:31
Perfluorohexanoic acid (PFHxA)	2.04	Baseline	westendor fc	05/15/18 16:31
Perfluorooctanesulfonic acid (PFOS)	3.11	Baseline	westendor fc	05/15/18 16:31

Lab Sample ID: ICB 320-223413/12 Client Sample ID: \_\_\_\_\_

Date Analyzed: 05/15/18 17:15 Lab File ID: 2018.05.15LLCC\_ICAL\_009.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.73	Assign Peak	hannigana	05/16/18 08:05
Perfluorononanoic acid (PFNA)		Invalid Compound ID	hannigana	05/16/18 08:05



LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Instrument ID: A8\_N Analysis Batch Number: 224205

Lab Sample ID: CCB 320-224205/1 Client Sample ID:

Date Analyzed: 05/19/18 04:10 Lab File ID: 2018.05.18LLC\_004.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
Perfluoroheptanoic acid (PFHpA)	2.33	Baseline	mongkols 05/20/18 11:37

Lab Sample ID: CCVL 320-224205/2 Client Sample ID:

Date Analyzed: 05/19/18 04:17 Lab File ID: 2018.05.18LLC\_005.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
Perfluorononanoic acid (PFNA)	3.06	Baseline	mongkols 05/20/18 11:39

Lab Sample ID: MB 320-223346/1-A Client Sample ID:

Date Analyzed: 05/19/18 04:33 Lab File ID: 2018.05.18LLC\_026.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
Perfluorooctanoic acid (PFOA)		Invalid Compound ID	westendor fc 05/19/18 12:07

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Instrument ID: A8\_N Analysis Batch Number: 224461

Lab Sample ID: CCB 320-224461/1 Client Sample ID:

Date Analyzed: 05/21/18 09:54 Lab File ID: 2018.05.21LLQCA\_003.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluororonanoic acid (PFNA)		Invalid Compound ID	barnettj	05/21/18 15:26

Lab Sample ID: CCVL 320-224461/2 Client Sample ID:

Date Analyzed: 05/21/18 10:02 Lab File ID: 2018.05.21LLQCA\_004.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluororonanoic acid (PFNA)	3.06	Baseline	mongkols	05/21/18 15:48

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 224542

Lab Sample ID: 320-39023-44      Client Sample ID: ER-01

Date Analyzed: 05/21/18 14:03      Lab File ID: 2018.05.21LICX\_005.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST      DATE
Perfluorobutanesulfonic acid (PFBS)	1.77	Baseline	barnettj      05/21/18 15:23

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1  
 SDG No.: \_\_\_\_\_

Instrument ID: A8\_N Analysis Batch Number: 225690  
 Lab Sample ID: CCB 320-225690/1 Client Sample ID: \_\_\_\_\_  
 Date Analyzed: 05/25/18 22:25 Lab File ID: 2018.05.25LLAAXX\_003.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFNA)		Invalid Compound ID	barnettj	05/26/18 12:50

Lab Sample ID: LCS 320-223901/2-A Client Sample ID: \_\_\_\_\_  
 Date Analyzed: 05/25/18 22:56 Lab File ID: 2018.05.25LLAAXX\_032.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	3.05	Isomers	hannigana	05/26/18 11:50

Lab Sample ID: 320-39023-48 Client Sample ID: ER-04  
 Date Analyzed: 05/26/18 00:15 Lab File ID: 2018.05.25LLAAXX\_042.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.69	Split Peak	barnettj	05/26/18 13:10

Lab Sample ID: CCV 320-225690/24 Client Sample ID: \_\_\_\_\_  
 Date Analyzed: 05/26/18 01:25 Lab File ID: 2018.05.25LLAAXX\_051.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	3.05	Isomers	barnettj	05/31/18 10:25

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 225818

Lab Sample ID: CCB 320-225818/1      Client Sample ID: \_\_\_\_\_

Date Analyzed: 05/28/18 07:00      Lab File ID: 2018.05.27LLADX\_001.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.70	Assign Peak	ruangyots akuld	05/30/18 10:55
Perfluorononanoic acid (PFNA)		Invalid Compound ID	barnettj	05/29/18 18:24

Lab Sample ID: MB 320-223615/1-A      Client Sample ID: \_\_\_\_\_

Date Analyzed: 05/28/18 07:23      Lab File ID: 2018.05.27LLADX\_004.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.71	Isomers	ruangyots akuld	05/30/18 10:59

Lab Sample ID: 320-39023-46      Client Sample ID: ER-02

Date Analyzed: 05/28/18 09:29      Lab File ID: 2018.05.27LLADX\_020.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.71	Isomers	ruangyots akuld	05/30/18 11:23
Perfluorooctanesulfonic acid (PFOS)	3.07	Baseline	ruangyots akuld	05/30/18 11:23



LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 225820

Lab Sample ID: 320-39023-1      Client Sample ID: MW-KIA01-01-01

Date Analyzed: 05/28/18 11:18      Lab File ID: 2018.05.27LLADX\_034.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	DATE
Perfluorobutanesulfonic acid (PFBS)	1.77	Baseline	05/30/18 14:19
Perfluorononanoic acid (PFNA)	3.07	Baseline	05/30/18 14:19

Lab Sample ID: 320-39023-2      Client Sample ID: MW-KIA02-01-01

Date Analyzed: 05/28/18 11:26      Lab File ID: 2018.05.27LLADX\_035.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	DATE
Perfluorobutanesulfonic acid (PFBS)	1.79	Assign Peak	05/30/18 14:20
Perfluorohexanesulfonic acid (PFHxS)	2.28	Baseline	05/30/18 14:21
Perfluorooctanoic acid (PFOA)	2.71	Baseline	05/30/18 14:20
Perfluorooctanesulfonic acid (PFOS)	2.85	Baseline	05/30/18 14:21
Perfluorononanoic acid (PFNA)	3.06	Split Peak	05/30/18 14:21

Lab Sample ID: 320-39023-3      Client Sample ID: MW-KIA03-01-01

Date Analyzed: 05/28/18 11:34      Lab File ID: 2018.05.27LLADX\_036.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	DATE
Perfluorononanoic acid (PFNA)	3.09	Split Peak	05/30/18 14:22

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N Analysis Batch Number: 225820

Lab Sample ID: 320-39023-5 Client Sample ID: MW-573-03-PRL05-01

Date Analyzed: 05/28/18 11:50 Lab File ID: 2018.05.27LLADX\_038.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	DATE
Perfluorobutanesulfonic acid (PFBS)	1.77	Baseline	05/30/18 14:23
Perfluorooctanesulfonic acid (PFOS)	3.09	Incomplete Integration	05/29/18 08:30

Lab Sample ID: 320-39023-5 MS Client Sample ID: MW-573-03-PRL05-01 MSD

Date Analyzed: 05/28/18 11:58 Lab File ID: 2018.05.27LLADX\_039.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	DATE
Perfluorobutanesulfonic acid (PFBS)	1.77	Baseline	05/30/18 14:26
Perfluorononanoic acid (PFNA)	3.08	Split Peak	05/30/18 14:27

Lab Sample ID: 320-39023-5 MSD Client Sample ID: MW-573-03-PRL05-01 MSD

Date Analyzed: 05/28/18 12:05 Lab File ID: 2018.05.27LLADX\_040.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	DATE
Perfluorobutanesulfonic acid (PFBS)	1.77	Baseline	05/30/18 14:29
Perfluorononanoic acid (PFNA)	3.09	Split Peak	05/30/18 14:30

Lab Sample ID: 320-39023-6 Client Sample ID: MW-572-02-PRL05-01

Date Analyzed: 05/28/18 12:13 Lab File ID: 2018.05.27LLADX\_041.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	DATE
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	05/29/18 08:31

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 225820

Lab Sample ID: 320-39023-7      Client Sample ID: MW-KIA06-01-01

Date Analyzed: 05/28/18 12:29      Lab File ID: 2018.05.27LIADX\_043.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST      DATE
Perfluorohexanesulfonic acid (PFHxS)	2.30	Baseline	mongkols      05/30/18 14:34
Perfluorooctanoic acid (PFOA)	2.72	Baseline	mongkols      05/30/18 14:34
Perfluorononanoic acid (PFNA)	3.08	Split Peak	mongkols      05/30/18 14:34

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N Analysis Batch Number: 225873

Lab Sample ID: CCB 320-225873/1 Client Sample ID: \_\_\_\_\_

Date Analyzed: 05/28/18 17:14 Lab File ID: 2018.05.28LLA\_003.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluororononanoic acid (PFNA)		Invalid Compound ID	mongkols	05/30/18 09:29

Lab Sample ID: CCVL 320-225873/2 Client Sample ID: \_\_\_\_\_

Date Analyzed: 05/28/18 17:22 Lab File ID: 2018.05.28LLA\_004.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	1.46	Baseline	mongkols	05/30/18 09:30
Perfluorohexanoic acid (PFHxA)	2.01	Baseline	mongkols	05/30/18 09:30
Perfluorooctanoic acid (PFOA)	2.70	Baseline	mongkols	05/30/18 09:30
Perfluororonanoic acid (PFNA)	3.06	Split Peak	mongkols	05/30/18 09:31
Perfluorooctanesulfonic acid (PFOS)	3.06	Baseline	mongkols	05/30/18 09:30
Perfluorododecanoic acid (PFDoA)	4.04	Baseline	mongkols	05/30/18 09:31

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1  
 SDG No.:

Instrument ID: A8\_N Analysis Batch Number: 225894  
 Lab Sample ID: 320-39023-9 Client Sample ID: KLA-01-SB1-01  
 Date Analyzed: 05/29/18 03:32 Lab File ID: 2018.05.28LLB\_008.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
Perfluororonanoic acid (PFNA)		Invalid Compound ID	mongkols 05/30/18 16:21
Lab Sample ID: 320-39023-10 Client Sample ID: KLA-01-SB1-02			
Date Analyzed: 05/29/18 03:40 Lab File ID: 2018.05.28LLB_009.d GC Column: GeminiC18 3x1 ID: 3 (mm)			

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
Perfluororonanoic acid (PFNA)		Invalid Compound ID	mongkols 05/30/18 16:22
Lab Sample ID: 320-39023-12 Client Sample ID: KLA-01-SB2-02			
Date Analyzed: 05/29/18 03:56 Lab File ID: 2018.05.28LLB_011.d GC Column: GeminiC18 3x1 ID: 3 (mm)			

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
Perfluororonanoic acid (PFNA)	3.08	Baseline	mongkols 05/30/18 16:22
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	mongkols 05/30/18 16:22
Lab Sample ID: 320-39023-13 Client Sample ID: KLA-01-SB3-01			
Date Analyzed: 05/29/18 04:04 Lab File ID: 2018.05.28LLB_012.d GC Column: GeminiC18 3x1 ID: 3 (mm)			

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
Perfluororonanoic acid (PFNA)		Invalid Compound ID	mongkols 05/30/18 16:23
Lab Sample ID: 320-39023-21 Client Sample ID: KLA03-SB1-01			
Date Analyzed: 05/29/18 04:19 Lab File ID: 2018.05.28LLB_014.d GC Column: GeminiC18 3x1 ID: 3 (mm)			
COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
Perfluorooctanoic acid (PFOA)	2.71	Baseline	mongkols 05/30/18 16:23



LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 225894

Lab Sample ID: 320-39023-22      Client Sample ID: KLA03-SB1-02

Date Analyzed: 05/29/18 04:27      Lab File ID: 2018.05.28LIB\_015.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST      DATE
Perfluorooctanoic acid (PFOA)	2.70	Baseline	mongkols      05/30/18 16:24

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1  
 SDG No.:

Instrument ID: A8\_N Analysis Batch Number: 225899  
 Lab Sample ID: CCB 320-225899/1 Client Sample ID:  
 Date Analyzed: 05/29/18 07:04 Lab File ID: 2018.05.28LLB\_003.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFNA)		Invalid Compound ID	mongkols	05/31/18 07:55

Lab Sample ID: CCVL 320-225899/2 Client Sample ID:  
 Date Analyzed: 05/29/18 07:12 Lab File ID: 2018.05.28LLB\_004.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	1.46	Baseline	mongkols	05/31/18 07:56
Perfluorohexanoic acid (PFHxA)	2.02	Baseline	mongkols	05/31/18 07:57

Lab Sample ID: 320-39023-15 Client Sample ID: KLA02-SB1-01  
 Date Analyzed: 05/29/18 07:43 Lab File ID: 2018.05.28LLB\_036.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.70	Baseline	ruangyots akuld	05/31/18 09:42

Lab Sample ID: 320-39023-15 MS Client Sample ID: KLA02-SB1-01 MS  
 Date Analyzed: 05/29/18 07:51 Lab File ID: 2018.05.28LLB\_037.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	3.07	Isomers	ruangyots akuld	05/31/18 09:43

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N Analysis Batch Number: 225899

Lab Sample ID: 320-39023-16 Client Sample ID: KLA02-SB1-02

Date Analyzed: 05/29/18 08:07 Lab File ID: 2018.05.28LLB\_039.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.70	Baseline	ruangyots akuld	05/31/18 09:45
Perfluorononanoic acid (PFNA)	3.07	Baseline	ruangyots akuld	05/31/18 09:46

Lab Sample ID: 320-39023-19 Client Sample ID: KLA02-SB3-01

Date Analyzed: 05/29/18 08:30 Lab File ID: 2018.05.28LLB\_042.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	hannigana	05/29/18 10:32

Lab Sample ID: 320-39023-20 Client Sample ID: KLA02-SB3-02

Date Analyzed: 05/29/18 08:38 Lab File ID: 2018.05.28LLB\_043.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorononanoic acid (PFNA)	3.08	Baseline	ruangyots akuld	05/31/18 09:49
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	ruangyots akuld	05/31/18 09:48

Lab Sample ID: 320-39023-27 Client Sample ID: KLA04-SB1-01

Date Analyzed: 05/29/18 08:54 Lab File ID: 2018.05.28LLB\_045.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorononanoic acid (PFNA)	3.08	Split Peak	ruangyots akuld	05/31/18 09:50

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 225899

Lab Sample ID: 320-39023-28      Client Sample ID: KLA04-SB1-02

Date Analyzed: 05/29/18 09:02      Lab File ID: 2018.05.28LLB\_046.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluororonanoic acid (PFNA)	3.08	Split Peak	ruangyots akuld	05/31/18 09:51
Perfluorooctanesulfonic acid (PFOS)	3.10	Isomers	ruangyots akuld	05/31/18 09:51

Lab Sample ID: 320-39023-29      Client Sample ID: KLA04-SB2-01

Date Analyzed: 05/29/18 09:09      Lab File ID: 2018.05.28LLB\_047.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluororonanoic acid (PFNA)	3.08	Split Peak	ruangyots akuld	05/31/18 09:52

Lab Sample ID: 320-39023-31      Client Sample ID: KLA04-SB3-01

Date Analyzed: 05/29/18 09:25      Lab File ID: 2018.05.28LLB\_049.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluororonanoic acid (PFNA)	3.08	Split Peak	ruangyots akuld	05/31/18 09:54

Lab Sample ID: 320-39023-32      Client Sample ID: KLA04-SB3-02

Date Analyzed: 05/29/18 09:33      Lab File ID: 2018.05.28LLB\_050.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	2.95	Incomplete Integration	hannigana	05/29/18 11:42

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Instrument ID: A8\_N Analysis Batch Number: 225899

Lab Sample ID: 320-39023-33 Client Sample ID: KLA05-SB1-01

Date Analyzed: 05/29/18 09:41 Lab File ID: 2018.05.28LLB\_051.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluororonanoic acid (PFNA)	3.08	Split Peak	ruangyots akuld	05/31/18 09:54

Lab Sample ID: 320-39023-36 Client Sample ID: KLA05-SB2-02

Date Analyzed: 05/29/18 10:04 Lab File ID: 2018.05.28LLB\_054.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluororonanoic acid (PFNA)	3.07	Split Peak	ruangyots akuld	05/31/18 10:06

Lab Sample ID: 320-39023-37 Client Sample ID: KLA05-SB3-01

Date Analyzed: 05/29/18 10:20 Lab File ID: 2018.05.28LLB\_056.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluororonanoic acid (PFNA)	3.06	Split Peak	ruangyots akuld	05/31/18 10:07

Lab Sample ID: 320-39023-38 Client Sample ID: KLA05-SB3-02

Date Analyzed: 05/29/18 10:28 Lab File ID: 2018.05.28LLB\_057.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluororonanoic acid (PFNA)	3.07	Split Peak	ruangyots akuld	05/31/18 10:08

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Instrument ID: A8\_N Analysis Batch Number: 225899

Lab Sample ID: 320-39023-53 Client Sample ID: KLA02-SB2-02D

Date Analyzed: 05/29/18 10:36 Lab File ID: 2018.05.28LIB\_058.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFNA)	3.08	Split Peak	ruangyots akuld	05/31/18 10:09

Lab Sample ID: 320-39023-54 Client Sample ID: KLA02-SB1-02D

Date Analyzed: 05/29/18 10:43 Lab File ID: 2018.05.28LIB\_059.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.70	Baseline	ruangyots akuld	05/31/18 10:10
Perfluorooctanoic acid (PFNA)	3.07	Split Peak	ruangyots akuld	05/31/18 10:11



LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1  
 SDG No.:

Instrument ID: A8\_N Analysis Batch Number: 226044  
 Lab Sample ID: 320-39023-9 DL Client Sample ID: KLA-01-SB1-01 DL  
 Date Analyzed: 05/29/18 11:07 Lab File ID: 2018.05.29LLA\_002.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
13C3-PFBS	1.77	Baseline	mongkols 05/30/18 17:03
Perfluorooctanoic acid (PFOA)	2.71	Baseline	mongkols 05/30/18 17:03

Lab Sample ID: 320-39023-10 DL Client Sample ID: KLA-01-SB1-02 DL  
 Date Analyzed: 05/29/18 11:15 Lab File ID: 2018.05.29LLA\_003.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
13C3-PFBS	1.76	Baseline	mongkols 05/30/18 17:04
Perfluorobutanesulfonic acid (PFBS)	1.77	Baseline	mongkols 05/30/18 17:04
Perfluorooctanoic acid (PFOA)	2.55	Baseline	mongkols 05/30/18 17:04

Lab Sample ID: 320-39023-39 DL Client Sample ID: KLA06-SB1-01 DL  
 Date Analyzed: 05/29/18 11:30 Lab File ID: 2018.05.29LLA\_005.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
Perfluorooctanoic acid (PFOA)	2.71	Baseline	mongkols 05/30/18 17:06

Lab Sample ID: 320-39023-40 DL Client Sample ID: KLA06-SB1-02 DL  
 Date Analyzed: 05/29/18 11:38 Lab File ID: 2018.05.29LLA\_006.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
Perfluorobutanesulfonic acid (PFBS)	1.76	Baseline	mongkols 05/30/18 17:07
Perfluorononanoic acid (PFNA)	3.08	Baseline	mongkols 05/30/18 17:07
Perfluoroheptanoic acid (PFHpA)		Invalid Compound ID	mongkols 05/30/18 17:07

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 226044

Lab Sample ID: 320-39023-41 DL2      Client Sample ID: KLA06-SB2-01 DL2

Date Analyzed: 05/29/18 12:02      Lab File ID: 2018.05.29LIA\_009.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	DATE
13C3-PFBS	1.77	Assign Peak	05/30/18 17:10
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	05/30/18 17:10

Lab Sample ID: 320-39023-41 MS DL2      Client Sample ID: KLA06-SB2-01 MS DL2

Date Analyzed: 05/29/18 12:10      Lab File ID: 2018.05.29LIA\_010.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	DATE
13C3-PFBS	1.77	Assign Peak	05/30/18 17:11
Perfluorooctanoic acid (PFOA)	2.72	Baseline	05/30/18 17:12
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	05/30/18 17:13
Perfluorononanoic acid (PFNA)	3.09	Baseline	05/30/18 17:12

Lab Sample ID: 320-39023-41 MSD DL2      Client Sample ID: KLA06-SB2-01 MSD DL2

Date Analyzed: 05/29/18 12:17      Lab File ID: 2018.05.29LIA\_011.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	DATE
13C3-PFBS	1.77	Assign Peak	05/30/18 17:14
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	05/30/18 17:15

Lab Sample ID: 320-39023-42 DL2      Client Sample ID: KLA06-SB2-02 DL2

Date Analyzed: 05/29/18 12:25      Lab File ID: 2018.05.29LIA\_012.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	DATE
13C3-PFBS	1.77	Baseline	05/30/18 17:16
Perfluorooctanoic acid (PFOA)	2.71	Baseline	05/30/18 17:17

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1  
 SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 226044  
 Lab Sample ID: 320-39023-52 DL2      Client Sample ID: KLA06-SB-2-02D DL2  
 Date Analyzed: 05/29/18 12:33      Lab File ID: 2018.05.29LLA\_013.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C3-PFBS	1.78	Assign Peak	hannigana	06/04/18 16:57
Perfluorooctanoic acid (PFOA)	2.72	Assign Peak	mongkols	05/30/18 17:18

Lab Sample ID: 320-39023-55 DL      Client Sample ID: KLA05-SB1-01D DL  
 Date Analyzed: 05/29/18 12:41      Lab File ID: 2018.05.29LLA\_014.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C3-PFBS	1.76	Assign Peak	mongkols	05/30/18 17:18
Lab Sample ID: 320-39023-41 DL	Client Sample ID: KLA06-SB2-01 DL			

Date Analyzed: 05/29/18 12:49      Lab File ID: 2018.05.29LLA\_015.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	mongkols	05/30/18 17:20

Lab Sample ID: 320-39023-41 MS DL      Client Sample ID: KLA06-SB2-01 MS DL  
 Date Analyzed: 05/29/18 12:57      Lab File ID: 2018.05.29LLA\_016.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	mongkols	05/30/18 17:21

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Instrument ID: A8\_N Analysis Batch Number: 226051

Lab Sample ID: 320-39023-19 DL Client Sample ID: KLA02-SB3-01 DL

Date Analyzed: 05/29/18 14:30 Lab File ID: 2018.05.29LIA\_028.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C3-PFBS	1.76	Incomplete Integration	ruangyots akuld	05/31/18 10:15

Lab Sample ID: 320-39023-33 DL Client Sample ID: KLA05-SB1-01 DL

Date Analyzed: 05/29/18 14:38 Lab File ID: 2018.05.29LIA\_029.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.71	Baseline	ruangyots akuld	05/31/18 10:16

Lab Sample ID: 320-39023-35 DL Client Sample ID: KLA05-SB2-01 DL

Date Analyzed: 05/29/18 14:46 Lab File ID: 2018.05.29LIA\_030.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorononanoic acid (PFNA)	3.09	Split Peak	ruangyots akuld	05/31/18 10:16

Lab Sample ID: 320-39023-36 DL Client Sample ID: KLA05-SB2-02 DL

Date Analyzed: 05/29/18 14:54 Lab File ID: 2018.05.29LIA\_031.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	ruangyots akuld	05/31/18 10:17

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1  
SDG No.:

Instrument ID: A8\_N Analysis Batch Number: 226051  
Lab Sample ID: 320-39023-17 DL Client Sample ID: KLA02-SB2-01 DL  
Date Analyzed: 05/29/18 15:02 Lab File ID: 2018.05.29LLA\_032.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C3-PFBS	1.75	Assign Peak	ruangyots akuld	05/31/18 10:17

Lab Sample ID: 320-39023-27 DL Client Sample ID: KLA04-SB1-01 DL  
Date Analyzed: 05/29/18 15:33 Lab File ID: 2018.05.29LLA\_036.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C3-PFBS	1.77	Assign Peak	ruangyots akuld	05/31/18 10:25
Perfluorooctanoic acid (PFOA)	2.72	Assign Peak	ruangyots akuld	05/31/18 10:26

Lab Sample ID: 320-39023-28 DL2 Client Sample ID: KLA04-SB1-02 DL2  
Date Analyzed: 05/29/18 15:41 Lab File ID: 2018.05.29LLA\_037.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C3-PFBS	1.77	Assign Peak	ruangyots akuld	05/31/18 10:27
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	ruangyots akuld	05/31/18 10:27

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 226051

Lab Sample ID: 320-39023-29 DL      Client Sample ID: KLA04-SB2-01 DL

Date Analyzed: 05/29/18 15:49      Lab File ID: 2018.05.29LIA\_038.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C3-PFBS	1.77	Assign Peak	ruangyots akuld	05/31/18 10:28
Perfluorooctanoic acid (PFOA)	2.71	Baseline	ruangyots akuld	05/31/18 10:28
Perfluorononanoic acid (PFNA)	3.08	Baseline	ruangyots akuld	05/31/18 10:28

Lab Sample ID: 320-39023-30 DL      Client Sample ID: KLA04-SB2-02 DL

Date Analyzed: 05/29/18 15:57      Lab File ID: 2018.05.29LIA\_039.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C3-PFBS	1.77	Assign Peak	ruangyots akuld	05/31/18 10:29
Perfluorononanoic acid (PFNA)	3.09	Baseline	ruangyots akuld	05/31/18 10:31
Perfluorooctanesulfonic acid (PFOS)	3.09	Isomers	ruangyots akuld	05/31/18 10:31

Lab Sample ID: 320-39023-31 DL2      Client Sample ID: KLA04-SB3-01 DL2

Date Analyzed: 05/29/18 16:12      Lab File ID: 2018.05.29LIA\_041.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C3-PFBS	1.77	Assign Peak	ruangyots akuld	05/31/18 10:32



LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 226051

Lab Sample ID: 320-39023-32 DL2      Client Sample ID: KLA04-SB3-02 DL2

Date Analyzed: 05/29/18 16:20      Lab File ID: 2018.05.29LILA\_042.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C3-PFBS	1.77	Assign Peak	ruangyots akuld	05/31/18 10:33
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	ruangyots akuld	05/31/18 10:34
Perfluorononanoic acid (PFNA)	3.09	Assign Peak	ruangyots akuld	05/31/18 10:33

Lab Sample ID: 320-39023-37 DL      Client Sample ID: KLA05-SB3-01 DL

Date Analyzed: 05/29/18 16:28      Lab File ID: 2018.05.29LILA\_043.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C3-PFBS	1.76	Assign Peak	ruangyots akuld	05/31/18 10:34

Lab Sample ID: 320-39023-38 DL      Client Sample ID: KLA05-SB3-02 DL

Date Analyzed: 05/29/18 16:44      Lab File ID: 2018.05.29LILA\_045.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C3-PFBS	1.77	Assign Peak	ruangyots akuld	05/31/18 10:35

Lab Sample ID: 320-39023-18 DL      Client Sample ID: KLA02-SB2-02 DL

Date Analyzed: 05/29/18 17:07      Lab File ID: 2018.05.29LILA\_048.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	3.09	Isomers	ruangyots akuld	05/31/18 11:01

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1  
 SDG No.:

Instrument ID: A8\_N Analysis Batch Number: 226051  
 Lab Sample ID: 320-39023-28 DL Client Sample ID: KLA04-SB1-02 DL  
 Date Analyzed: 05/29/18 17:15 Lab File ID: 2018.05.29LLA\_049.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	DATE
13C3-PFBS	1.76	Baseline	05/31/18 11:02

Lab Sample ID: 320-39023-31 DL Client Sample ID: KLA04-SB3-01 DL  
 Date Analyzed: 05/29/18 17:23 Lab File ID: 2018.05.29LLA\_050.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	DATE
Perfluorononanoic acid (PFNA)	3.08	Baseline	05/31/18 11:03

Lab Sample ID: 320-39023-32 DL Client Sample ID: KLA04-SB3-02 DL  
 Date Analyzed: 05/29/18 17:31 Lab File ID: 2018.05.29LLA\_051.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	DATE
Perfluorononanoic acid (PFNA)	3.08	Split Peak	05/31/18 11:03
Perfluorooctanesulfonic acid (PFOS)	3.08	Baseline	05/31/18 11:03

Lab Sample ID: 320-39023-53 DL Client Sample ID: KLA02-SB2-02D DL  
 Date Analyzed: 05/29/18 17:38 Lab File ID: 2018.05.29LLA\_052.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	DATE
13C3-PFBS	1.77	Baseline	05/31/18 11:04
Perfluorononanoic acid (PFNA)	3.08	Split Peak	05/31/18 11:05

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1  
 SDG No.:

Instrument ID: A8\_N Analysis Batch Number: 226055  
 Lab Sample ID: CCB 320-226055/1 Client Sample ID:  
 Date Analyzed: 05/29/18 18:17 Lab File ID: 2018.05.29LLB\_002.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.70	Assign Peak	mongkols	05/30/18 15:06
Perfluorononanoic acid (PFNA)		Invalid Compound ID	mongkols	05/30/18 15:06

Lab Sample ID: CCVL 320-226055/2 Client Sample ID:  
 Date Analyzed: 05/29/18 18:25 Lab File ID: 2018.05.29LLB\_003.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluoropentanoic acid (PFPeA)	1.73	Baseline	mongkols	05/30/18 15:07
Perfluorononanoic acid (PFNA)	3.08	Split Peak	mongkols	05/30/18 15:07

Lab Sample ID: 320-39023-1 DL Client Sample ID: MW-KLA01-01-01 DL  
 Date Analyzed: 05/29/18 18:41 Lab File ID: 2018.05.29LLB\_005.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanesulfonic acid (PFBS)	1.77	Baseline	mongkols	05/30/18 15:08
Perfluorononanoic acid (PFNA)		Invalid Compound ID	mongkols	05/30/18 15:08

Lab Sample ID: 320-39023-2 DL Client Sample ID: MW-KLA02-01-01 DL  
 Date Analyzed: 05/29/18 18:49 Lab File ID: 2018.05.29LLB\_006.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorononanoic acid (PFNA)	3.09	Baseline	hannigana	06/04/18 13:28

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1  
 SDG No.:

Instrument ID: A8\_N Analysis Batch Number: 226055  
 Lab Sample ID: 320-39023-3 DL Client Sample ID: MW-KLA03-01-01 DL  
 Date Analyzed: 05/29/18 19:04 Lab File ID: 2018.05.29LLB\_008.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C3-PFBS	1.77	Assign Peak	mongkols	05/30/18 15:10
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	mongkols	05/30/18 15:11

Lab Sample ID: 320-39023-4 DL Client Sample ID: MW-KLA04-01-01 DL  
 Date Analyzed: 05/29/18 19:12 Lab File ID: 2018.05.29LLB\_009.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorononanoic acid (PFNA)		Invalid Compound ID	mongkols	05/30/18 15:11

Lab Sample ID: 320-39023-4 Client Sample ID: MW-KLA04-01-01  
 Date Analyzed: 05/29/18 19:20 Lab File ID: 2018.05.29LLB\_010.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorononanoic acid (PFNA)		Invalid Compound ID	mongkols	05/30/18 15:11

Lab Sample ID: 320-39023-5 DL Client Sample ID: MW-573-03-PRL05-01 DL  
 Date Analyzed: 05/29/18 19:28 Lab File ID: 2018.05.29LLB\_011.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C3-PFBS	1.76	Assign Peak	mongkols	05/30/18 15:12
Perfluorononanoic acid (PFNA)	3.08	Baseline	mongkols	05/30/18 15:12

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Instrument ID: A8\_N Analysis Batch Number: 226055

Lab Sample ID: 320-39023-5 MS DL Client Sample ID: MW-573-03-PRL05-01 MS DL

Date Analyzed: 05/29/18 19:36 Lab File ID: 2018.05.29LLB\_012.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
13C3-PFBS	1.76	Assign Peak	mongkols 05/30/18 15:13

Lab Sample ID: 320-39023-5 MSD DL Client Sample ID: MW-573-03-PRL05-01 MSD DL

Date Analyzed: 05/29/18 19:44 Lab File ID: 2018.05.29LLB\_013.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
13C3-PFBS	1.77	Assign Peak	mongkols 05/30/18 15:15
Perfluorononanoic acid (PFNA)	3.09	Baseline	mongkols 05/30/18 15:16

Lab Sample ID: 320-39023-6 DL Client Sample ID: MW-572-02-PRL05-01 DL

Date Analyzed: 05/29/18 20:07 Lab File ID: 2018.05.29LLB\_016.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
13C3-PFBS	1.77	Baseline	mongkols 05/30/18 15:17
Perfluorononanoic acid (PFNA)	3.09	Baseline	mongkols 05/30/18 15:18

Lab Sample ID: 320-39023-7 DL2 Client Sample ID: MW-KLA06-01-01 DL2

Date Analyzed: 05/29/18 20:31 Lab File ID: 2018.05.29LLB\_019.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
13C3-PFBS	1.76	Baseline	mongkols 05/30/18 15:19

Lab Sample ID: 320-39023-49 DL Client Sample ID: MW-572-02-PRL05-01D DL

Date Analyzed: 05/29/18 20:54 Lab File ID: 2018.05.29LLB\_022.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST DATE
Perfluorononanoic acid (PFNA)	3.08	Baseline	mongkols 05/30/18 15:22

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 226055

Lab Sample ID: 320-39023-56      Client Sample ID: ER-05

Date Analyzed: 05/29/18 21:18      Lab File ID: 2018.05.29LIB\_025.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST      DATE
Perfluorooctanoic acid (PFOA)	2.71	Baseline	mongkols      05/30/18 15:23



LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 226338

Lab Sample ID: CCVL 320-226338/2      Client Sample ID: \_\_\_\_\_

Date Analyzed: 05/30/18 23:22      Lab File ID: 2018.05.30LIC\_002.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanoic acid (PFHxA)	2.01	Baseline	westendor fc	05/31/18 08:52
Perfluorooctanoic acid (PFOA)	2.70	Baseline	westendor fc	05/31/18 08:52

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 226343

Lab Sample ID: MB 320-224254/1-A      Client Sample ID: \_\_\_\_\_

Date Analyzed: 05/31/18 02:14      Lab File ID: 2018.05.30LIC\_024.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST      DATE
Perfluorooctanoic acid (PFOA)	2.69	Split Peak	barnettj      05/31/18 14:14

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 226349

Lab Sample ID: 320-39023-8      Client Sample ID: KLA08-SW1-01

Date Analyzed: 05/31/18 04:51      Lab File ID: 2018.05.30LIC\_044.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST      DATE
Perfluorobutanesulfonic acid (PFBS)	1.76	Baseline	barnettj      05/31/18 16:23
Perfluoroheptanoic acid (PFHpA)	2.33	Baseline	barnettj      05/31/18 16:24
Perfluorohexanesulfonic acid (PFHxS)	2.36	Baseline	barnettj      05/31/18 16:24
Perfluorooctanoic acid (PFOA)	2.70	Baseline	barnettj      05/31/18 16:24
Perfluorononanoic acid (PFNA)	3.07	Baseline	barnettj      05/31/18 16:26
Perfluorooctanesulfonic acid (PFOS)	3.07	Baseline	barnettj      05/31/18 16:25

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Instrument ID: A8\_N Analysis Batch Number: 227354

Lab Sample ID: IC 320-227354/2 Client Sample ID:

Date Analyzed: 06/05/18 14:28 Lab File ID: 2018.06.05ICAL\_002.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanoic acid (PFHxA)	2.03	Assign Peak	westendor fc	06/05/18 17:02

Lab Sample ID: IC 320-227354/3 Client Sample ID:

Date Analyzed: 06/05/18 14:36 Lab File ID: 2018.06.05ICAL\_003.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluoropentanoic acid (PFPeA)	1.74	Baseline	westendor fc	06/05/18 17:02

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 227634

Lab Sample ID: CCVL 320-227634/2      Client Sample ID: \_\_\_\_\_

Date Analyzed: 06/06/18 15:27      Lab File ID: 2018.06.06LIB\_004.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	3.08	Baseline	mongkols	06/07/18 10:03
N-ethyl perfluorooctane sulfonamidoacetic acid (NETFOSAA)	3.75	Baseline	mongkols	06/07/18 10:03

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Instrument ID: A8\_N Analysis Batch Number: 227681

Lab Sample ID: 320-39023-23 Client Sample ID: KLA03-SB2-01

Date Analyzed: 06/06/18 22:47 Lab File ID: 2018.06.06LLC\_059.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFNA)		Invalid Compound ID	mongkols	06/07/18 14:42

Lab Sample ID: 320-39023-24 Client Sample ID: KLA03-SB2-02

Date Analyzed: 06/06/18 22:55 Lab File ID: 2018.06.06LLC\_060.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	3.07	Isomers	mongkols	06/07/18 14:44

Lab Sample ID: 320-39023-25 Client Sample ID: KLA03-SB3-01

Date Analyzed: 06/06/18 23:03 Lab File ID: 2018.06.06LLC\_061.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFNA)		Invalid Compound ID	mongkols	06/07/18 14:54

Lab Sample ID: 320-39023-26 Client Sample ID: KLA03-SB3-02

Date Analyzed: 06/06/18 23:10 Lab File ID: 2018.06.06LLC\_062.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	mongkols	06/07/18 14:55



LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: A8\_N      Analysis Batch Number: 227681

Lab Sample ID: 320-39023-39      Client Sample ID: KLA06-SB1-01

Date Analyzed: 06/06/18 23:18      Lab File ID: 2018.06.06LILC\_063.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST      DATE
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	mongkols      06/07/18 14:55

Lab Sample ID: 320-39023-40      Client Sample ID: KLA06-SB1-02

Date Analyzed: 06/06/18 23:26      Lab File ID: 2018.06.06LILC\_064.d      GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST      DATE
Perfluorooctanesulfonic acid (PFOS)	3.08	Isomers	mongkols      06/07/18 14:56

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H      Analysis Batch Number: 415548

Lab Sample ID: IC 280-415548/10      Client Sample ID: \_\_\_\_\_

Date Analyzed: 05/20/18 19:48      Lab File ID: H6490.D      GC Column: DB-624 (75.53 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3-Trichloropropane		Invalid Compound ID	moanm	05/21/18 09:23
1,2-Dibromo-3-Chloropropane		Invalid Compound ID	moanm	05/21/18 09:23
2-Butanone (MEK)		Invalid Compound ID	moanm	05/21/18 09:21
2-Hexanone		Invalid Compound ID	moanm	05/21/18 09:22
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	moanm	05/21/18 09:21
Acrolein		Invalid Compound ID	moanm	05/21/18 09:20
Acrylonitrile		Invalid Compound ID	moanm	05/21/18 09:21
Cyclohexanone		Invalid Compound ID	moanm	05/21/18 09:23
Ethyl methacrylate		Invalid Compound ID	moanm	05/21/18 09:21
Isobutyl alcohol		Invalid Compound ID	moanm	05/21/18 09:21
Methyl tert-butyl ether		Invalid Compound ID	moanm	05/21/18 09:21
sec-Butyl Alcohol		Invalid Compound ID	moanm	05/21/18 09:21
t-Butyl alcohol		Invalid Compound ID	moanm	05/21/18 09:21
Tetrahydrofuran		Invalid Compound ID	moanm	05/21/18 09:21
Vinyl acetate		Invalid Compound ID	moanm	05/21/18 09:21

Lab Sample ID: IC 280-415548/11      Client Sample ID: \_\_\_\_\_

Date Analyzed: 05/20/18 20:09      Lab File ID: H6491.D      GC Column: DB-624 (75.53 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	moanm	05/21/18 09:25

Lab Sample ID: IC 280-415548/12      Client Sample ID: \_\_\_\_\_

Date Analyzed: 05/20/18 20:31      Lab File ID: H6492.D      GC Column: DB-624 (75.53 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromodichloromethane	7.82	Split Peak	moanm	05/21/18 09:26

## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver

Job No.: 320-39023-1

SDG No.:

Instrument ID: VMS\_H

Analysis Batch Number: 415548

Lab Sample ID: IC 280-415548/13

Client Sample ID:

Date Analyzed: 05/20/18 20:52

Lab File ID: H6493.D

GC Column: DB-624 (75.53 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Pentanone	7.38	Split Peak	moanm	05/21/18 09:27
1,2-Dichloropropane	7.43	Split Peak	moanm	05/21/18 09:27

Lab Sample ID: IC 280-415548/14

Client Sample ID:

Date Analyzed: 05/20/18 21:13

Lab File ID: H6494.D

GC Column: DB-624 (75.53 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acrolein	3.33	Split Peak	moanm	05/21/18 09:45
Acetone	3.47	Baseline	moanm	05/21/18 09:46

Lab Sample ID: IC 280-415548/15

Client Sample ID:

Date Analyzed: 05/20/18 21:35

Lab File ID: H6495.D

GC Column: DB-624 (75.53 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,4-Trichlorobenzene	16.02	Split Peak	moanm	05/21/18 09:31

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H      Analysis Batch Number: 415628

Lab Sample ID: IC 280-415628/10      Client Sample ID: \_\_\_\_\_

Date Analyzed: 05/21/18 08:40      Lab File ID: H6508.D      GC Column: DB-624 (75.53 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetonitrile		Invalid Compound ID	moanm	05/21/18 11:23
Ethanol		Invalid Compound ID	moanm	05/21/18 11:23
Isopropyl alcohol		Invalid Compound ID	moanm	05/21/18 11:23

Lab Sample ID: IC 280-415628/11      Client Sample ID: \_\_\_\_\_

Date Analyzed: 05/21/18 09:02      Lab File ID: H6509.D      GC Column: DB-624 (75.53 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Isopropyl alcohol	3.62	Assign Peak	moanm	05/21/18 11:24

## GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver

Job No.: 320-39023-1

SDG No.:

Instrument ID: SMS\_Y

Analysis Batch Number: 412210

Lab Sample ID: ICIS 280-412210/3

Client Sample ID:

Date Analyzed: 04/21/18 12:10

Lab File ID: Y19201.D

GC Column: Rxi-5Sil MS

ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Caprolactam	6.28	Split Peak	kiekeld	04/21/18 13:08

Lab Sample ID: STD004 280-412210/4 IC

Client Sample ID:

Date Analyzed: 04/21/18 12:38

Lab File ID: Y19202.D

GC Column: Rxi-5Sil MS

ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	5.56	Wrong peak	kiekeld	04/22/18 06:31

Lab Sample ID: STD010 280-412210/5 IC

Client Sample ID:

Date Analyzed: 04/21/18 13:07

Lab File ID: Y19203.D

GC Column: Rxi-5Sil MS

ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	5.58	Wrong peak	kiekeld	04/22/18 06:31
Caprolactam	6.25	Wrong peak	kiekeld	04/22/18 06:31

Lab Sample ID: STD020 280-412210/6 IC

Client Sample ID:

Date Analyzed: 04/21/18 13:35

Lab File ID: Y19204.D

GC Column: Rxi-5Sil MS

ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	5.60	Wrong peak	kiekeld	04/22/18 06:31
4-Nitrophenol	7.73	Wrong peak	kiekeld	04/22/18 06:35

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: SMS\_Y      Analysis Batch Number: 412210

Lab Sample ID: STD050 280-412210/7 IC      Client Sample ID: \_\_\_\_\_

Date Analyzed: 04/21/18 14:04      Lab File ID: Y19205.D      GC Column: Rxi-5Sil MS      ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	5.63	Wrong peak	kiekeld	04/22/18 06:32
Caprolactam	6.27	Split Peak	kiekeld	04/22/18 06:32
2,4-Dinitrophenol	7.68	Wrong peak	kiekeld	04/22/18 06:37
4-Nitrophenol	7.74	Wrong peak	kiekeld	04/22/18 06:36

Lab Sample ID: STD120 280-412210/8 IC      Client Sample ID: \_\_\_\_\_

Date Analyzed: 04/21/18 14:33      Lab File ID: Y19206.D      GC Column: Rxi-5Sil MS      ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	5.68	Split Peak	kiekeld	04/22/18 06:32
Caprolactam	6.29	Split Peak	kiekeld	04/22/18 06:32
Indeno[1,2,3-cd]pyrene	20.34	Shouldering	kiekeld	04/22/18 06:37

Lab Sample ID: STD160 280-412210/9 IC      Client Sample ID: \_\_\_\_\_

Date Analyzed: 04/21/18 15:01      Lab File ID: Y19207.D      GC Column: Rxi-5Sil MS      ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	5.69	Split Peak	kiekeld	04/22/18 06:33
Caprolactam	6.31	Split Peak	kiekeld	04/22/18 06:33
Indeno[1,2,3-cd]pyrene	20.35	Shouldering	kiekeld	04/22/18 06:38



GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: SMS\_Y      Analysis Batch Number: 412210

Lab Sample ID: STD200 280-412210/10 IC      Client Sample ID: \_\_\_\_\_

Date Analyzed: 04/21/18 15:30      Lab File ID: Y19208.D      GC Column: Rxi-5Sil MS      ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST      DATE
Benzoic acid	5.71	Split Peak	kiekeld      04/22/18 06:33
Caprolactam	6.32	Split Peak	kiekeld      04/22/18 06:33
Indeno[1,2,3-cd]pyrene	20.36	Shouldering	kiekeld      04/22/18 06:39

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Instrument ID: SMS\_Y      Analysis Batch Number: 416357

Lab Sample ID: 320-39023-58      Client Sample ID: IDW-KINGSLEY-WA-IDOS01

Date Analyzed: 05/25/18 20:46      Lab File ID: Y19673.D      GC Column: Rxi-5Sil MS      ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION	
		REASON	ANALYST      DATE
2,4,5-Trichlorophenol		Invalid Compound ID	hoeflera      05/26/18 13:21
2,4,6-Trichlorophenol		Invalid Compound ID	hoeflera      05/26/18 13:21

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento

Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
LCMPFC_ALL_SU_00060	11/03/18	05/03/18	Methanol, Lot Baker 141039	200 mL	LCd3-NMeFOSAA_00006	200 uL	d3-NMeFOSAA	0.05 ug/mL
					LCd5-NETFOSAA_00006	200 uL	d5-NETFOSAA	0.05 ug/mL
					LCM2-6:FTS_00006	200 uL	M2-6:2FTS	0.0475 ug/mL
					LCM2-8:2FTS_00008	200 uL	M2-8:2FTS	0.0479 ug/mL
					LCM2PFHxDA_00013	200 uL	13C2-PFHxDA	0.05 ug/mL
					LCM2PFTeDA_00012	200 uL	13C2-PFTeDA	0.05 ug/mL
					LCM3HFPO-DA_00002	200 uL	13C3 HFPO-DA	0.05 ug/mL
					LCM4PFHPA_00012	200 uL	13C4-PFHpA	0.05 ug/mL
					LCM5PFPEA_00013	200 uL	13C5-PFPeA	0.05 ug/mL
					LCM8FOSA_00016	200 uL	13C8 FOSA	0.05 ug/mL
					LCMPFBA_00013	200 uL	13C4 PFBA	0.05 ug/mL
					LCMPFBS_00006	200 uL	13C3-PFBS	0.0465 ug/mL
					LCMPFDA_00018	200 uL	13C2 PFDA	0.05 ug/mL
					LCMPFDoA_00013	200 uL	13C2 PFDoA	0.05 ug/mL
					LCMPFHxA_00019	200 uL	13C2 PFHxA	0.05 ug/mL
					LCMPFHxS_00013	200 uL	1802 PFHxS	0.0473 ug/mL
					LCMPFNA_00013	200 uL	13C5 PFNA	0.05 ug/mL
					LCMPFOA_00017	200 uL	13C4 PFOA	0.05 ug/mL
					LCMPFOS_00025	200 uL	13C4 PFOS	0.0478 ug/mL
					LCMPFUDa_00014	200 uL	13C2 PFUnA	0.05 ug/mL
	05/19/22	WELLINGTON, Lot d3NMeFOSAA0517	WELLINGTON, Lot Baker 141039	200 mL	(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
	11/08/22	WELLINGTON, Lot d5NETFOSAA1117			(Purchased Reagent)		d5-NETFOSAA	50 ug/mL
	02/17/22	WELLINGTON, Lot M262FTS0217			(Purchased Reagent)		M2-6:2FTS	47.5 ug/mL
	07/05/22	WELLINGTON, Lot M282FTS0717			(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
	07/13/22	Wellington Laboratories, Lot M2PFHxDA0717			(Purchased Reagent)		13C2-PFHxDA	50 ug/mL
	11/30/22	Wellington Laboratories, Lot M2PFTeDA1117			(Purchased Reagent)		13C2-PFTeDA	50 ug/mL
	08/17/20	WELLINGTON, Lot M3HFPODA0817			(Purchased Reagent)		13C3 HFPO-DA	50 ug/mL
	05/03/22	Wellington Laboratories, Lot M4PFHPA0517			(Purchased Reagent)		13C4-PFHpA	50 ug/mL
	07/20/22	Wellington Laboratories, Lot M5PFPeA0717			(Purchased Reagent)		13C5-PFPeA	50 ug/mL
	10/11/22	Wellington Laboratories, Lot M8FOSA1017I			(Purchased Reagent)		13C8 FOSA	50 ug/mL
	04/12/22	Wellington Laboratories, Lot MPFBA0417			(Purchased Reagent)		13C4 PFBA	50 ug/mL
	05/24/22	Wellington Laboratories, Lot M3PFBS0815			(Purchased Reagent)		13C3-PFBS	46.5 ug/mL
	07/13/22	Wellington Laboratories, Lot MPFDA0717			(Purchased Reagent)		13C2 PFDA	50 ug/mL
	05/23/22	Wellington Laboratories, Lot MPFDoA0517			(Purchased Reagent)		13C2 PFDoA	50 ug/mL
	10/27/22	Wellington Laboratories, Lot MPFHxA1017			(Purchased Reagent)		13C2 PFHxA	50 ug/mL
	02/17/22	Wellington Laboratories, Lot MPFHxS0217			(Purchased Reagent)		1802 PFHxS	47.3 ug/mL
	09/30/21	Wellington Laboratories, Lot MPFNA0916			(Purchased Reagent)		13C5 PFNA	50 ug/mL
	10/17/22	Wellington Laboratories, Lot MPFOA1017			(Purchased Reagent)		13C4 PFOA	50 ug/mL
	10/17/22	Wellington Laboratories, Lot MPFOS1017			(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
	11/22/21	Wellington Laboratories, Lot MPFUDa1116			(Purchased Reagent)		13C2 PFUnA	50 ug/mL
LCMPFC_ALL_SU_00063	11/15/18	05/15/18	Methanol, Lot Baker 141039	200 mL	LCd3-NMeFOSAA_00006	200 uL	d3-NMeFOSAA	0.05 ug/mL
					LCd5-NETFOSAA_00006	200 uL	d5-NETFOSAA	0.05 ug/mL
					LCM2-6:FTS_00006	200 uL	M2-6:2FTS	0.0475 ug/mL
					LCM2-8:2FTS_00008	200 uL	M2-8:2FTS	0.0479 ug/mL

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento

Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.LCd3-NMeFOSAA_00006	05/19/22		WELLINGTON, Lot d3NMeFOSAA0517					
.LCd5-NEtFOSAA_00006	11/08/22		WELLINGTON, Lot d5NEtFOSAA1117					
.LCM2-6:FtS_00006	02/17/22		WELLINGTON, Lot M262FtS0217					
.LCM2-8:2FtS_00008	07/05/22		WELLINGTON, Lot M282FtS0717					
.LCM2PFHxDA_00013	11/13/22		Wellington Laboratories, Lot M2PFHxDA0717					
.LCM3HFPO-DA_00002	07/30/22		Wellington Laboratories, Lot M2PFTEdA1117					
.LCM3HFPO-DA_00002	08/17/20		WELLINGTON, Lot M3HFPODA0817					
.LCM4PFHPA_00012	05/03/22		Wellington Laboratories, Lot M4PFHPA0517					
.LCM5PFPEA_00013	07/20/22		Wellington Laboratories, Lot M5PFPEA0717					
.LCM8FOSA_00016	10/11/22		Wellington Laboratories, Lot M8FOSA1017I					
.LCMPFBA_00013	04/12/22		Wellington Laboratories, Lot MPFBA0417					
.LCMPFBS_00006	05/24/22		Wellington Laboratories, Lot M3PFBS0815					
.LCMPFDA_00018	07/13/22		Wellington Laboratories, Lot MPFDA0717					
.LCMPFDoA_00013	05/23/22		Wellington Laboratories, Lot MPFDoA0517					
.LCMPFHxA_00019	10/27/22		Wellington Laboratories, Lot MPFHxA1017					
.LCMPFHxS_00013	02/17/22		Wellington Laboratories, Lot MPFHxS0217					
.LCMPFNA_00013	09/30/21		Wellington Laboratories, Lot MPFNA0916					
.LCMPFOA_00017	10/17/22		Wellington Laboratories, Lot MPFOA1017					
.LCMPFOS_00025	10/17/22		Wellington Laboratories, Lot MPFOS1017					
.LCMPFudA_00014	11/22/21		Wellington Laboratories, Lot MPFudA1116					
LCMPFC_ALL_SU_00065	11/15/18	05/15/18	Methanol, Lot Baker 141039	200 mL	LCd3-NMeFOSAA_00006	200 uL	d3-NMeFOSAA	0.05 ug/mL
					LCd5-NEtFOSAA_00006	200 uL	d5-NEtFOSAA	0.05 ug/mL
					LCM2-6:FtS_00006	200 uL	M2-6:2FtS	0.0475 ug/mL
					LCM2-8:2FtS_00008	200 uL	M2-8:2FtS	0.0479 ug/mL
					LCM2PFHxDA_00013	200 uL	13C2-PFHxDA	0.05 ug/mL
					LCM2PFTEdA_00012	200 uL	13C2-PFTEdA	0.05 ug/mL
					LCM3HFPO-DA_00002	200 uL	13C3 HFPO-DA	0.05 ug/mL
					LCM4PFHPA_00012	200 uL	13C4-PFHpA	0.05 ug/mL
					LCM5PFPEA_00013	200 uL	13C5-PFPeA	0.05 ug/mL
					LCM8FOSA_00016	200 uL	13C8 FOSA	0.05 ug/mL
					LCMPFBA_00013	200 uL	13C4 PFBA	0.05 ug/mL
					LCMPFBS_00006	200 uL	13C3-PFBS	0.0465 ug/mL
					LCMPFDA_00018	200 uL	13C2 PFDA	0.05 ug/mL
					LCMPFDoA_00013	200 uL	13C2 PFDoA	0.05 ug/mL
					LCMPFHxA_00019	200 uL	13C2 PFHxA	0.05 ug/mL
					LCMPFHxS_00013	200 uL	1802 PFHxS	0.0473 ug/mL
					LCMPFNA_00013	200 uL	13C5 PFNA	0.05 ug/mL
					LCMPFOA_00017	200 uL	13C4 FFOA	0.05 ug/mL
					LCMPFOS_00025	200 uL	13C4 FPOS	0.0478 ug/mL
					LCMPFudA_00014	200 uL	13C2 PFUnA	0.05 ug/mL
					(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
					(Purchased Reagent)		d5-NEtFOSAA	50 ug/mL
					(Purchased Reagent)		M2-6:2FtS	47.5 ug/mL
					(Purchased Reagent)		M2-8:2FtS	47.9 ug/mL
					(Purchased Reagent)		13C2-PFHxDA	50 ug/mL
					(Purchased Reagent)		13C2-PFTEdA	50 ug/mL
					(Purchased Reagent)		13C3 HFPO-DA	50 ug/mL
					(Purchased Reagent)		13C4-PFHpA	50 ug/mL
					(Purchased Reagent)		13C5-PFPeA	50 ug/mL
					(Purchased Reagent)		13C8 FOSA	50 ug/mL
					(Purchased Reagent)		13C4 PFBA	50 ug/mL
					(Purchased Reagent)		13C3-PFBS	46.5 ug/mL
					(Purchased Reagent)		13C2 PFDA	50 ug/mL
					(Purchased Reagent)		13C2 PFDoA	50 ug/mL
					(Purchased Reagent)		13C2 PFHxA	50 ug/mL
					(Purchased Reagent)		1802 PFHxS	47.3 ug/mL
					(Purchased Reagent)		13C5 PFNA	50 ug/mL
					(Purchased Reagent)		13C4 FFOA	50 ug/mL
					(Purchased Reagent)		13C4 FPOS	47.8 ug/mL
					(Purchased Reagent)		13C2 PFUnA	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.LCd3-NMeFOSAA_00006	05/19/22		WELLINGTON, Lot d3NMeFOSAA0517		LCMPFDA_00018	200 uL	13C2 PFDA	0.05 ug/mL
.LCd5-NETfOSAA_00006	11/08/22		WELLINGTON, Lot d5NETfOSAA1117		LCMPFDoA_00013	200 uL	13C2 PFDoA	0.05 ug/mL
.LCM2-6:FtS_00006	02/17/22		WELLINGTON, Lot M262FtS0217		LCMPFHxA_00019	200 uL	13C2 PFHxA	0.05 ug/mL
.LCM2-8:2FtS_00008	07/05/22		WELLINGTON, Lot M282FtS0717		LCMPFHxS_00013	200 uL	18O2 PFHxS	0.0473 ug/mL
.LCM2PFHxDA_00013	07/13/22		Wellington Laboratories, Lot M2PFHxDA0717		LCMPFNA_00013	200 uL	13C5 PFNA	0.05 ug/mL
.LCM2PFTeDA_00012	11/30/22		Wellington Laboratories, Lot M2PFTeDA1117		LCMPFOA_00017	200 uL	13C4 PFOA	0.05 ug/mL
.LCM3HFPO-DA_00002	08/17/20		WELLINGTON, Lot M3HFPODA0817		LCMPFOS_00025	200 uL	13C4 PFOS	0.0478 ug/mL
.LCM4PFHPA_00012	05/03/22		Wellington Laboratories, Lot M4PFHPA0517		LCMPFUDa_00014	200 uL	13C2 PFUnA	0.05 ug/mL
.LCM5PFPEA_00013	07/20/22		Wellington Laboratories, Lot M5PFPEA0717			(Purchased Reagent)	d3-NMeFOSAA	50 ug/mL
.LCM8FOSA_00016	10/11/22		Wellington Laboratories, Lot M8FOSA1017I			(Purchased Reagent)	d5-NETfOSAA	50 ug/mL
.LCMPFBA_00013	04/12/22		Wellington Laboratories, Lot MPFBA0417			(Purchased Reagent)	M2-6:2FtS	47.5 ug/mL
.LCMPFBS_00006	05/24/22		Wellington Laboratories, Lot M3PFBS0815			(Purchased Reagent)	M2-8:2FtS	47.9 ug/mL
.LCMPFDA_00018	07/13/22		Wellington Laboratories, Lot MPFDA0717			(Purchased Reagent)	13C2-PFHxDA	50 ug/mL
.LCMPFDoA_00013	05/23/22		Wellington Laboratories, Lot MPFDoA0517			(Purchased Reagent)	13C2-PFTeDA	50 ug/mL
.LCMPFHxA_00019	10/27/22		Wellington Laboratories, Lot MPFHxA1017			(Purchased Reagent)	13C3 HFPO-DA	50 ug/mL
.LCMPFHxS_00013	02/17/22		Wellington Laboratories, Lot MPFHxS0217			(Purchased Reagent)	13C4-PFHpA	50 ug/mL
.LCMPFNA_00013	09/30/21		Wellington Laboratories, Lot MPFNA0916			(Purchased Reagent)	13C5-PFPeA	50 ug/mL
.LCMPFOA_00017	10/17/22		Wellington Laboratories, Lot MPFOA1017			(Purchased Reagent)	13C8 FOSA	50 ug/mL
.LCMPFOS_00025	10/17/22		Wellington Laboratories, Lot MPFOS1017			(Purchased Reagent)	13C4 PFBA	47.8 ug/mL
.LCMPFUDa_00014	11/22/21		Wellington Laboratories, Lot MPFUDa1116			(Purchased Reagent)	13C2 PFUnA	50 ug/mL
LCMPFC_ALL_SU_00066	11/15/18	05/15/18	Methanol, Lot Baker 141039	200 mL	LCd3-NMeFOSAA_00006		d3-NMeFOSAA	0.05 ug/mL
					LCd5-NETfOSAA_00006		d5-NETfOSAA	0.05 ug/mL
					LCM2-6:FtS_00006		M2-6:2FtS	0.0475 ug/mL
					LCM2-8:2FtS_00008		M2-8:2FtS	0.0479 ug/mL
					LCM2PFHxDA_00013		13C2-PFHxDA	0.05 ug/mL
					LCM2PFTeDA_00012		13C2-PFTeDA	0.05 ug/mL
					LCM3HFPO-DA_00002		13C3 HFPO-DA	0.05 ug/mL
					LCM4PFHPA_00012		13C4-PFHpA	0.05 ug/mL
					LCM5PFPEA_00013		13C5-PFPeA	0.05 ug/mL
					LCM8FOSA_00016		13C8 FOSA	0.05 ug/mL
					LCMPFBA_00013		13C4 PFBA	0.05 ug/mL
					LCMPFBS_00006		13C3-PFBS	0.0465 ug/mL
					LCMPFDA_00018		13C2 PFDA	0.05 ug/mL
					LCMPFDoA_00013		13C2 PFDoA	0.05 ug/mL
					LCMPFHxA_00019		13C2 PFHxA	0.05 ug/mL
					LCMPFHxS_00013		18O2 PFHxS	0.0473 ug/mL
					LCMPFNA_00013		13C5 PFNA	0.05 ug/mL
					LCMPFOA_00017		13C4 PFOA	0.05 ug/mL
					LCMPFOS_00025		13C4 PFOS	0.0478 ug/mL
					LCMPFUDa_00014		13C2 PFUnA	50 ug/mL
					LCd3-NMeFOSAA_00006		d3-NMeFOSAA	0.05 ug/mL
					LCd5-NETfOSAA_00006		d5-NETfOSAA	0.05 ug/mL
					LCM2-6:FtS_00006		M2-6:2FtS	0.0475 ug/mL
					LCM2-8:2FtS_00008		M2-8:2FtS	0.0479 ug/mL
					LCM2PFHxDA_00013		13C2-PFHxDA	0.05 ug/mL
					LCM2PFTeDA_00012		13C2-PFTeDA	0.05 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.LCd3-NMeFOSAA_00006	05/19/22		WELLINGTON, Lot d3NMeFOSAA0517		LCMPFudA_00014	200 uL	13C2 PFUnA	0.05 ug/mL
.LCd5-NETfOSAA_00006	11/08/22		WELLINGTON, Lot d5NETfOSAA1117		(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
.LCM2-6:FtS_00006	02/17/22		WELLINGTON, Lot M262FtS0217		(Purchased Reagent)		d5-NETfOSAA	50 ug/mL
.LCM2-8:2FtS_00008	07/05/22		WELLINGTON, Lot M282FtS0717		(Purchased Reagent)		M2-6:2FtS	47.5 ug/mL
.LCM2PFHxDA_00013	07/13/22		Wellington Laboratories, Lot M2PFHxDA0717		(Purchased Reagent)		M2-8:2FtS	47.9 ug/mL
.LCM2PFtTeDA_00012	11/30/22		Wellington Laboratories, Lot M2PFtTeDA1117		(Purchased Reagent)		13C2-PFHxDA	50 ug/mL
.LCM3HFPO-DA_00002	08/17/20		WELLINGTON, Lot M3HFPODA0817		(Purchased Reagent)		13C2-PFtTeDA	50 ug/mL
.LCM4PFHPA_00012	05/03/22		Wellington Laboratories, Lot M4PFHPA0517		(Purchased Reagent)		13C3 HFPO-DA	50 ug/mL
.LCM5PFPEA_00013	07/20/22		Wellington Laboratories, Lot M5PFPEA0717		(Purchased Reagent)		13C4-PFHpA	50 ug/mL
.LCM8FOSA_00016	10/11/22		Wellington Laboratories, Lot M8FOSA1017I		(Purchased Reagent)		13C5-PFPeA	50 ug/mL
.LCMPFBA_00013	04/12/22		Wellington Laboratories, Lot MPFBA0417		(Purchased Reagent)		13C8 FOSA	50 ug/mL
.LCMPFBS_00006	05/24/22		Wellington Laboratories, Lot M3PFBS0815		(Purchased Reagent)		13C4 PFBA	50 ug/mL
.LCMPFDA_00018	07/13/22		Wellington Laboratories, Lot MPFDA0717		(Purchased Reagent)		13C3-PFBS	46.5 ug/mL
.LCMPFDoA_00013	05/23/22		Wellington Laboratories, Lot MPFDoA0517		(Purchased Reagent)		13C2 PFDoA	50 ug/mL
.LCMPFHxA_00019	10/27/22		Wellington Laboratories, Lot MPFHxA1017		(Purchased Reagent)		13C2 PFHxA	50 ug/mL
.LCMPFHxS_00013	02/17/22		Wellington Laboratories, Lot MPFHxS0217		(Purchased Reagent)		1802 PFHxS	47.3 ug/mL
.LCMPENA_00013	09/30/21		Wellington Laboratories, Lot MPENA0916		(Purchased Reagent)		13C5 PFNA	50 ug/mL
.LCMPFOA_00017	10/17/22		Wellington Laboratories, Lot MPFOA1017		(Purchased Reagent)		13C4 PFOA	50 ug/mL
.LCMPFOS_00025	10/17/22		Wellington Laboratories, Lot MPFOS1017		(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
.LCMPFudA_00014	11/22/21		Wellington Laboratories, Lot MPFudA1116		(Purchased Reagent)		13C2 PFUnA	50 ug/mL
.LCPFC-IS_00045	11/03/18	05/03/18	Methanol, Lot 090285	200 mL	LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
.LCM2PFOA_00008	02/12/21		Wellington Laboratories, Lot M2PFOA0216		(Purchased Reagent)		13C2-PFOA	50 ug/mL
.LCPFC-IS_00047	11/15/18	05/15/18	Methanol, Lot 090285	200 mL	LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
.LCM2PFOA_00008	02/12/21		Wellington Laboratories, Lot M2PFOA0216		(Purchased Reagent)		13C2-PFOA	50 ug/mL
.LCPFC-IS_00048	11/15/18	05/15/18	Methanol, Lot 090285	200 mL	LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
.LCM2PFOA_00008	02/12/21		Wellington Laboratories, Lot M2PFOA0216		(Purchased Reagent)		13C2-PFOA	50 ug/mL
.LCPFC-IS_00049	11/15/18	05/15/18	Methanol, Lot 090285	200 mL	LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
.LCM2PFOA_00008	02/12/21		Wellington Laboratories, Lot M2PFOA0216		(Purchased Reagent)		13C2-PFOA	50 ug/mL
.LCPFC-IS_00050	11/15/18	05/15/18	Methanol, Lot 090285	200 mL	LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
.LCM2PFOA_00008	02/12/21		Wellington Laboratories, Lot M2PFOA0216		(Purchased Reagent)		13C2-PFOA	50 ug/mL
.LCPFC-IS_00052	11/15/18	05/25/18	Methanol, Lot 090285	200 mL	LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
.LCM2PFOA_00008	02/12/21		Wellington Laboratories, Lot M2PFOA0216		(Purchased Reagent)		13C2-PFOA	50 ug/mL
.LCPFC_LL0_00006	08/20/18	02/22/18	MeOH/H2O, Lot Baker 141039	200 mL	LCMPFC_ALL_SU_00041	10 mL	13C2-PFOA	2.5 ng/mL
.LCMPFC_ALL_SU_00041	08/20/18	02/20/18	Methanol, Lot Baker 141039	200 mL	LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
.LCM2PFOA_00008	02/12/21		Wellington Laboratories, Lot M2PFOA0216		(Purchased Reagent)		13C2-PFOA	50 ug/mL
.LCPFC_LL0_00006	08/20/18	02/22/18	MeOH/H2O, Lot Baker 141039	200 mL	LCMPFC_ALL_SU_00041	10 mL	d3-NMeFOSAA	2.5 ng/mL
							d5-NETfOSAA	2.5 ng/mL
							M2-6:2FtS	2.375 ng/mL
							M2-8:2FtS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFtTeDA	2.5 ng/mL
							13C4-PFHpA	2.5 ng/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCMBFC_ALL_SU_00041	08/20/18	02/20/18	Methanol, Lot Baker 141039	200 mL	LCd3-NMeFOSAA_00006	200 uL	d3-NMeFOSAA	0.05 ug/mL
					LCd5-NETFOSAA_00006	200 uL	d5-NETFOSAA	0.05 ug/mL
					LCM2-6:FTS_00006	200 uL	M2-6:2FTS	0.0475 ug/mL
					LCM2-8:2FTS_00008	200 uL	M2-8:2FTS	0.0479 ug/mL
					LCM2PFHxDA_00013	200 uL	13C2-PFHxDA	0.05 ug/mL
					LCM2PFTEdA_00012	200 uL	13C2-PFTEdA	0.05 ug/mL
					LCM4PFHPA_00012	200 uL	13C4-PFHpA	0.05 ug/mL
					LCM5PFPEA_00013	200 uL	13C5-PFPEa	0.05 ug/mL
					LCM8FOSA_00016	200 uL	13C8 FOSA	0.05 ug/mL
					LCMPFBA_00013	200 uL	13C4 PFBA	0.05 ug/mL
					LCMPFBS_00006	200 uL	13C3-PFBS	0.0465 ug/mL
					LCMPFDA_00018	200 uL	13C2 PFDA	0.05 ug/mL
					LCMPFDoA_00013	200 uL	13C2 PFDoA	0.05 ug/mL
					LCMPFHxA_00019	200 uL	13C2 PFHxA	0.05 ug/mL
					LCMPFHxS_00013	200 uL	1802 PFHxS	0.0473 ug/mL
					LCMPFNA_00013	200 uL	13C5 PFNA	0.05 ug/mL
					LCMPFOA_00017	200 uL	13C4 PFOA	0.05 ug/mL
					LCMPFOS_00025	200 uL	13C4 PFOS	0.0478 ug/mL
					LCMPFUDa_00014	200 uL	13C2 PFUnA	0.05 ug/mL
	05/19/22		WELLINGTON, Lot d3NMeFOSAA0517		(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
..LCd5-NETFOSAA_00006	11/08/22		WELLINGTON, Lot d5NETFOSAA1117		(Purchased Reagent)		d5-NETFOSAA	50 ug/mL
..LCM2-6:FTS_00006	02/17/22		WELLINGTON, Lot M262FTS0217		(Purchased Reagent)		M2-6:2FTS	47.5 ug/mL
..LCM2-8:2FTS_00008	07/05/22		WELLINGTON, Lot M282FTS0717		(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
..LCM2PFHxDA_00013	07/13/22		Wellington Laboratories, Lot M2PFHxDA0717		(Purchased Reagent)		13C2-PFHxDA	50 ug/mL
..LCM2PFTEdA_00012	11/30/22		Wellington Laboratories, Lot M2PFTEdA1117		(Purchased Reagent)		13C2-PFTEdA	50 ug/mL
..LCM4PFHPA_00012	05/03/22		Wellington Laboratories, Lot M4PFHPA0517		(Purchased Reagent)		13C4-PFHpA	50 ug/mL
..LCM5PFPEA_00013	07/20/22		Wellington Laboratories, Lot M5PFPEA0717		(Purchased Reagent)		13C5-PFPEa	50 ug/mL
..LCM8FOSA_00016	10/11/22		Wellington Laboratories, Lot M8FOSA1017I		(Purchased Reagent)		13C8 FOSA	50 ug/mL
..LCMPFBA_00013	04/12/22		Wellington Laboratories, Lot MPFBA0417		(Purchased Reagent)		13C4 PFBA	50 ug/mL
..LCMPFBS_00006	05/24/22		Wellington Laboratories, Lot M3PFBS0815		(Purchased Reagent)		13C3-PFBS	46.5 ug/mL
..LCMPFDA_00018	07/13/22		Wellington Laboratories, Lot MPFDA0717		(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFDoA_00013	05/23/22		Wellington Laboratories, Lot MPFDoA0517		(Purchased Reagent)		13C2 PFDoA	50 ug/mL
..LCMPFHxA_00019	10/27/22		Wellington Laboratories, Lot MPFHxA1017		(Purchased Reagent)		13C2 PFHxA	50 ug/mL
..LCMPFHxS_00013	02/17/22		Wellington Laboratories, Lot MPFHxS0217		(Purchased Reagent)		1802 PFHxS	47.3 ug/mL
..LCMPFNA_00013	09/30/21		Wellington Laboratories, Lot MPFNA0916		(Purchased Reagent)		13C5 PFNA	50 ug/mL

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration				
					Reagent ID	Volume Added						
..LCMPFOA 00017	10/17/22	Wellington Laboratories, Lot MPFOA1017	Wellington Laboratories, Lot MPFOA1017 Wellington Laboratories, Lot MPFOSA1017 Wellington Laboratories, Lot MPFUDa1116	200 mL	(Purchased Reagent)	10 mL	13C4 PFOA	50 ug/mL				
..LCMPFOS 00025	10/17/22	Wellington Laboratories, Lot MPFOSA1017			(Purchased Reagent)		13C4 PFOS	47.8 ug/mL				
..LCMPFUDa 00014	11/22/21	Wellington Laboratories, Lot MPFUDa1116			(Purchased Reagent)		13C2 PFUnA	50 ug/mL				
LCPFPC_LL0_00007	12/01/18	06/05/18	MeOH/H2O, Lot Baker 141039	200 mL	LCMPFC_ALL_SU_00075	10 mL	13C2-PFOA	2.5 ng/mL				
.LCMPFC_ALL_SU_00075	12/05/18	06/05/18	Methanol, Lot Baker 141039	200 mL	LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL				
..LCM2PFOA 00008	02/12/21	Wellington Laboratories, Lot M2PFOA0216	Wellington Laboratories, Lot M2PFOA0216 MeOH/H2O, Lot Baker 141039	200 mL	(Purchased Reagent)	10 mL	13C2-PFOA	50 ug/mL				
LCPFPC_LL0_00007	12/01/18	06/05/18					LCMPFC_ALL_SU_00075	d3-NMeFOSAA	2.5 ng/mL			
											d5-NEtFOSAA	2.5 ng/mL
											M2-6:2FTS	2.375 ng/mL
											M2-8:2FTS	2.395 ng/mL
											13C2-PFHxDA	2.5 ng/mL
											13C2-PFTeDA	2.5 ng/mL
											13C4-PFHpA	2.5 ng/mL
											13C5-PFPpEA	2.5 ng/mL
											13C8 FOSA	2.5 ng/mL
											13C4 PFBA	2.5 ng/mL
											13C3-PFBS	2.325 ng/mL
											13C2 PFDA	2.5 ng/mL
											13C2 PFDoA	2.5 ng/mL
			13C2 PFHxA	2.5 ng/mL								
1802 PFHxS	2.365 ng/mL											
13C5 PFNA	2.5 ng/mL											
13C4 PFOA	2.5 ng/mL											
13C4 PFOS	2.39 ng/mL											
13C2 PFUnA	2.5 ng/mL											
d3-NMeFOSAA	0.05 ug/mL											
				200 mL	LCd3-NMeFOSAA_00008	200 uL	d5-NEtFOSAA	0.05 ug/mL				
							d5-NEtFOSAA	0.05 ug/mL				
							LCM2-6:FTS	0.0475 ug/mL				
							LCM2-8:2FTS	0.0479 ug/mL				
							LCM2PFHxDA	0.05 ug/mL				
							LCM2PFTeDA	0.05 ug/mL				
							LCM4PFHPA	0.05 ug/mL				
							LCM5PFPpEA	0.05 ug/mL				
							LCM8FOSA	0.05 ug/mL				
							LCMPFBA	0.05 ug/mL				
							LCMPFBS	0.0465 ug/mL				
							LCMPFDA	0.05 ug/mL				
							LCMPFDoA	0.05 ug/mL				
							LCMPFHxA	0.05 ug/mL				
							LCMPFHxS	0.0473 ug/mL				
							LCMPFNA	0.05 ug/mL				
							LCMPFOA	0.05 ug/mL				
							LCMPFOS	0.0478 ug/mL				
							LCMPFUDa	0.05 ug/mL				
							LCd5-NEtFOSAA_00008	200 uL	0.05 ug/mL			
							LCM2-6:FTS	200 uL	0.0475 ug/mL			
							LCM2-8:2FTS	200 uL	0.0479 ug/mL			
							LCM2PFHxDA	200 uL	0.05 ug/mL			
LCM2PFTeDA	200 uL	0.05 ug/mL										
LCM4PFHPA	200 uL	0.05 ug/mL										
LCM5PFPpEA	200 uL	0.05 ug/mL										
LCM8FOSA	200 uL	0.05 ug/mL										
LCMPFBA	200 uL	0.05 ug/mL										
LCMPFBS	200 uL	0.0465 ug/mL										
LCMPFDA	200 uL	0.05 ug/mL										
LCMPFDoA	200 uL	0.05 ug/mL										
LCMPFHxA	200 uL	0.05 ug/mL										
LCMPFHxS	200 uL	0.0473 ug/mL										
LCMPFNA	200 uL	0.05 ug/mL										
LCMPFOA	200 uL	0.05 ug/mL										
LCMPFOS	200 uL	0.0478 ug/mL										
LCMPFUDa	200 uL	0.05 ug/mL										

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LC43-NMeFOSAA 00008	11/08/22	WELLINGTON, Lot d3NMeFOSAA1117			(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
..LC45-NEtFOSAA 00008	11/08/22	WELLINGTON, Lot d5NEtFOSAA1117			(Purchased Reagent)		d5-NEtFOSAA	50 ug/mL
..LCM2-6:2FTS 00008	02/16/23	WELLINGTON, Lot M262FTS0218			(Purchased Reagent)		M2-6:2FTS	47.5 ug/mL
..LCM2-8:2FTS 00010	01/24/23	WELLINGTON, Lot M282FTS0118			(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
..LCM2PFHxDA 00016	07/13/22	Wellington Laboratories, Lot M2PFHxDA0717			(Purchased Reagent)		13C2-PFHxDA	50 ug/mL
..LCM2PFTeDA 00014	11/30/22	Wellington Laboratories, Lot M2PFTeDA1117			(Purchased Reagent)		13C2-PFTeDA	50 ug/mL
..LCM4PFHxA 00014	05/03/22	Wellington Laboratories, Lot M4PFHxA0517			(Purchased Reagent)		13C4-PFHxA	50 ug/mL
..LCM5PFPeA 00015	07/20/22	Wellington Laboratories, Lot M5PFPeA0717			(Purchased Reagent)		13C5-PFPeA	50 ug/mL
..LCM8FOSA 00019	10/11/22	Wellington Laboratories, Lot M8FOSA1017I			(Purchased Reagent)		13C8 FOSA	50 ug/mL
..LCMPFBA 00015	02/16/23	Wellington Laboratories, Lot MPFBA0218			(Purchased Reagent)		13C4 PFBA	50 ug/mL
..LCMPFBS 00008	02/15/23	Wellington Laboratories, Lot M3PFBS0218			(Purchased Reagent)		13C3-PFBS	46.5 ug/mL
..LCMPFDA 00020	02/16/23	Wellington Laboratories, Lot MPFDA0218			(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFDoA 00015	02/16/23	Wellington Laboratories, Lot MPFDoA0218			(Purchased Reagent)		13C2 PFDoA	50 ug/mL
..LCMPFHxA 00022	10/27/22	Wellington Laboratories, Lot MPFHxA1017			(Purchased Reagent)		13C2 PFHxA	50 ug/mL
..LCMPFHxS 00015	03/22/23	Wellington Laboratories, Lot MPFHxS0318			(Purchased Reagent)		1802 PFHxS	47.3 ug/mL
..LCMPFNA 00015	12/14/22	Wellington Laboratories, Lot MPFNA1217			(Purchased Reagent)		13C5 PFNA	50 ug/mL
..LCMPFOA 00019	05/04/23	Wellington Laboratories, Lot MPFOA0418			(Purchased Reagent)		13C4 PFOA	50 ug/mL
..LCMPFOS 00027	02/15/23	Wellington Laboratories, Lot MPFOS0218			(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
..LCMPFUDa 00017	11/22/21	Wellington Laboratories, Lot MPFUDa1116			(Purchased Reagent)		13C2 PFUnA	50 ug/mL
LCFPC_LLI_00005	08/20/18	02/22/18 MeOH/H2O, Lot 90285		200 mL	LCMPFC_ALL_SU_00041	10 mL	d3-NMeFOSAA	2.5 ng/mL
							d5-NEtFOSAA	2.5 ng/mL
							M2-6:2FTS	2.375 ng/mL
							M2-8:2FTS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFOA	2.5 ng/mL
							13C2-PFTeDA	2.5 ng/mL
							13C4-PFHxA	2.5 ng/mL
							13C5-PFPeA	2.5 ng/mL
							13C8 FOSA	2.5 ng/mL
							13C4 PFBA	2.5 ng/mL
							13C3-PFBS	2.5 ng/mL
							13C2 PFDA	2.325 ng/mL
							13C2 PFDoA	2.5 ng/mL
							13C2 PFHxA	2.5 ng/mL
							1802 PFHxS	2.365 ng/mL
							13C5 PFNA	2.5 ng/mL
							13C4 PFOA	2.5 ng/mL
							13C4 PFOS	2.39 ng/mL
							13C2 PFUnA	2.5 ng/mL
					LCPFOSP_00136	50 uL	Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	0.02335 ng/mL
							Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.0237 ng/mL
							Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	0.02395 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCMPEC_ALL_SU_00041	08/20/18	02/20/18	Methanol, Lot Baker 141039	200 mL	LCd3-NMeFOSAA_00006	200 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	0.025 ng/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	0.025 ng/mL
							Perfluorobutyric acid	0.025 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	0.0221 ng/mL
							Perfluorodecanoic acid	0.025 ng/mL
							Perfluorododecanoic acid	0.025 ng/mL
							Perfluorododecane Sulfonic acid	0.0241 ng/mL
							Perfluoroheptanoic acid (PFHpA)	0.025 ng/mL
							Perfluoroheptanesulfonic acid	0.0238 ng/mL
							Perfluorohexanoic acid	0.025 ng/mL
							Perfluorohexanesulfonic acid (PFHxS)	0.02275 ng/mL
							Perfluorononanoic acid (PFNA)	0.025 ng/mL
							Perfluorononanesulfonic acid	0.024 ng/mL
							Perfluorooctanoic acid (PFOA)	0.025 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	0.0232 ng/mL
							Perfluorooctane Sulfonamide	0.025 ng/mL
							Perfluoropentanoic acid	0.025 ng/mL
							Perfluoropentanesulfonic acid	0.02345 ng/mL
							Perfluorotetradecanoic acid	0.025 ng/mL
							Perfluorotridecanoic acid	0.025 ng/mL
							Perfluoroundecanoic acid	0.025 ng/mL
..LCd3-NMeFOSAA_00006	05/19/22	WELLINGTON, Lot d3NMeFOSAA0517		200 mL	LCd3-NMeFOSAA_00006	200 uL	d3-NMeFOSAA	0.05 ug/mL
							LCd5-NETFOSAA	0.05 ug/mL
							LCd5-NETFOSAA_00006	0.05 ug/mL
							LCM2-6:FTS_00006	0.0475 ug/mL
							LCM2-6:FTS_00006	0.0475 ug/mL
							LCM2-8:2FTS_00008	0.0479 ug/mL
							LCM2-8:2FTS_00008	0.0479 ug/mL
							LCM2PFHxDA_00013	0.05 ug/mL
							LCM2PFHxDA_00013	0.05 ug/mL
							LCM2PFOA_00008	0.05 ug/mL
							LCM2PFOA_00008	0.05 ug/mL
							LCM2PFTeDA_00012	0.05 ug/mL
							LCM2PFTeDA_00012	0.05 ug/mL
							LCM4PFHPA_00012	0.05 ug/mL
							LCM4PFHPA_00012	0.05 ug/mL
							LCM5PFPEA_00013	0.05 ug/mL
							LCM5PFPEA_00013	0.05 ug/mL
							LCM8FOSA_00016	0.05 ug/mL
							LCM8FOSA_00016	0.05 ug/mL
							LCMPFBA_00013	0.05 ug/mL
							LCMPFBA_00013	0.05 ug/mL
							LCMPFBS_00006	0.05 ug/mL
							LCMPFBS_00006	0.05 ug/mL
							LCMPFBA_00018	0.05 ug/mL
							LCMPFBA_00018	0.05 ug/mL
							LCMPFDoA_00013	0.05 ug/mL
							LCMPFDoA_00013	0.05 ug/mL
							LCMPFHxA_00019	0.05 ug/mL
							LCMPFHxA_00019	0.05 ug/mL
							LCMPFHxS_00013	0.0473 ug/mL
							LCMPFHxS_00013	0.0473 ug/mL
							LCMPFNA_00013	0.05 ug/mL
							LCMPFNA_00013	0.05 ug/mL
							LCMPFOA_00017	0.05 ug/mL
							LCMPFOA_00017	0.05 ug/mL
							LCMPFOS_00025	0.0478 ug/mL
							LCMPFOS_00025	0.0478 ug/mL
							LCMPFUDa_00014	0.05 ug/mL
							LCMPFUDa_00014	0.05 ug/mL
							(Purchased Reagent)	50 ug/mL
							d3-NMeFOSAA	50 ug/mL

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento

Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCd5-NEtFOSAA 00006	11/08/22	WELLINGTON, Lot d5NEtFOSAA1117		1117	(Purchased Reagent)		d5-NEtFOSAA	50 ug/mL
..LCM2-6:2FTS 00006	02/17/22	WELLINGTON, Lot M262FTS0217		0217	(Purchased Reagent)		M2-6:2FTS	47.5 ug/mL
..LCM2-8:2FTS 00008	07/05/22	WELLINGTON, Lot M282FTS0717		0717	(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
..LCM2PFHxDA 00013	07/13/22	Wellington Laboratories, Lot M2PFHxDA0717		0717	(Purchased Reagent)		13C2-PFHxDA	50 ug/mL
..LCM2PFOA 00008	02/12/21	Wellington Laboratories, Lot M2PFOA0216		0216	(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCM2PFTeDA 00012	11/30/22	Wellington Laboratories, Lot M2PFTeDA1117		1117	(Purchased Reagent)		13C2-PFTeDA	50 ug/mL
..LCM4PFHxA 00012	05/03/22	Wellington Laboratories, Lot M4PFHxA0517		0517	(Purchased Reagent)		13C4-PFHxA	50 ug/mL
..LCM5PFPeA 00013	07/20/22	Wellington Laboratories, Lot M5PFPeA0717		0717	(Purchased Reagent)		13C5-PFPeA	50 ug/mL
..LCM8FOSA 00016	10/11/22	Wellington Laboratories, Lot M8FOSA1017I		1017I	(Purchased Reagent)		13C8 FOSA	50 ug/mL
..LCMPFBA 00013	04/12/22	Wellington Laboratories, Lot MPFBA0417		0417	(Purchased Reagent)		13C4 PFBA	50 ug/mL
..LCMPFBS 00006	05/24/22	Wellington Laboratories, Lot M3PFBS0815		0815	(Purchased Reagent)		13C3-PFBS	46.5 ug/mL
..LCMPFDA 00018	07/13/22	Wellington Laboratories, Lot MPFDA0717		0717	(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFDoA 00013	05/23/22	Wellington Laboratories, Lot MPFDoA0517		0517	(Purchased Reagent)		13C2 PFDoA	50 ug/mL
..LCMPFHxA 00019	10/27/22	Wellington Laboratories, Lot MPFHxA1017		1017	(Purchased Reagent)		13C2 PFHxA	50 ug/mL
..LCMPFHxS 00013	02/17/22	Wellington Laboratories, Lot MPFHxS0217		0217	(Purchased Reagent)		1802 PFHxS	47.3 ug/mL
..LCMPFNA 00013	09/30/21	Wellington Laboratories, Lot MPFNA0916		0916	(Purchased Reagent)		13C5 PFNA	50 ug/mL
..LCMPFOA 00017	10/17/22	Wellington Laboratories, Lot MPFOA1017		1017	(Purchased Reagent)		13C4 PFOA	50 ug/mL
..LCMPFOS 00025	10/17/22	Wellington Laboratories, Lot MPFOS1017		1017	(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
..LCMPFUDa 00014	11/22/21	Wellington Laboratories, Lot MPFUDa1116		1116	(Purchased Reagent)	1 mL	13C2 PFUnA	50 ug/mL
..LCPFCS_P_00136	08/20/18	02/20/18 Methanol, Lot 090285		10000 uL	LCPFCS_P_00132		Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	0.0934 ug/mL
							Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.0948 ug/mL
							Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	0.0958 ug/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	0.1 ug/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	0.1 ug/mL
							Perfluorobutyric acid	0.1 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	0.0884 ug/mL
							Perfluorodecanoic acid	0.1 ug/mL
							Perfluorododecanoic acid	0.1 ug/mL
							Perfluorodecane Sulfonic acid	0.0964 ug/mL
							Perfluoroheptanoic acid (PFHpA)	0.1 ug/mL
							Perfluoroheptanesulfonic acid	0.0952 ug/mL
							Perfluorohexanoic acid	0.1 ug/mL
							Perfluorohexanesulfonic acid (PFHxS)	0.091 ug/mL
							Perfluorononanoic acid (PFNA)	0.1 ug/mL
							Perfluorononanesulfonic acid	0.096 ug/mL
							Perfluorooctanoic acid (PFOA)	0.1 ug/mL
							Perfluorooctanesulfonic acid (PFOS)	0.0928 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCBFCSP_00132	08/20/18	02/20/18	Methanol, Lot 090285	10000 uL	LC4:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.934 ug/mL
					LC6:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.948 ug/mL
					LC8:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.958 ug/mL
					LCN-EtFOSAA_00004	200 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	1 ug/mL
					LCN-MeFOSAA_00005	200 uL	N-methyl perfluorooctane sulfonamidoacetic acid	1 ug/mL
					LCPFBA_00007	200 uL	Perfluorobutyric acid	1 ug/mL
					LCPFBS_00008	200 uL	Perfluorobutanesulfonic acid (PFBS)	0.884 ug/mL
					LCPFDA_00008	200 uL	Perfluorodecanoic acid	1 ug/mL
					LCPFDoA_00008	200 uL	Perfluorododecanoic acid	1 ug/mL
					LCPFDSA_00002	200 uL	Perfluorodecane Sulfonic acid	0.964 ug/mL
					LCPFHpA_00008	200 uL	Perfluoroheptanoic acid (PFHpA)	1 ug/mL
					LCPFHpSA_00003	200 uL	Perfluoroheptanesulfonic acid	0.952 ug/mL
					LCPFHxA_00007	200 uL	Perfluorohexanoic acid	1 ug/mL
					LCPFHxS-br_00004	200 uL	Perfluorohexanesulfonic acid (PFHxS)	0.91 ug/mL
					LCPFNA_00009	200 uL	Perfluorononanoic acid (PFNA)	1 ug/mL
					LCPFNS_00003	200 uL	Perfluorononanesulfonic acid	0.96 ug/mL
					LCPFOA_00009	200 uL	Perfluorooctanoic acid (PFOA)	1 ug/mL
...LC4:2FTS_00003	12/12/21		WELLINGTON, Lot 42FTS1216		LCPFOS-br_00004	200 uL	Perfluorooctanesulfonic acid (PFOS)	0.928 ug/mL
					LCPFOSA_00010	200 uL	Perfluorooctane Sulfonamide	1 ug/mL
					LCPFPeA_00007	200 uL	Perfluoropentanoic acid	1 ug/mL
					LCPFPeS_00003	200 uL	Perfluoropentanesulfonic acid	0.938 ug/mL
					LCPFTeDA_00006	200 uL	Perfluorotetradecanoic acid	1 ug/mL
					LCPFTrDA_00006	200 uL	Perfluorotridecanoic acid	1 ug/mL
					LCPFvDA_00007	200 uL	Perfluoroundecanoic acid	1 ug/mL
					(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
					(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
					(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
...LC8:2FtS_00003	08/22/21		WELLINGTON, Lot 82FtS0816		(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL
...LCN-EtFOSAA_00004	09/30/21		WELLINGTON, Lot NETFOSAA0916		(Purchased Reagent)		N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
...LCN-MeFOSAA_00005	10/12/21		WELLINGTON, Lot NMeFOSAA0916		(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
...LCPFBA_00007	05/27/21	Wellington Laboratories	Lot PFBA0516		(Purchased Reagent)		Perfluorobutyric acid	50 ug/mL
...LCPFBS_00008	03/15/21	Wellington Laboratories	Lot LPFBS0316		(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
...LCPFDA_00008	05/29/22	Wellington Laboratories	Lot PFDA0517		(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
...LCPFDoA_00008	05/29/22	Wellington Laboratories	Lot PFDoA0517		(Purchased Reagent)		Perfluorododecanoic acid	50 ug/mL
...LCPFDsA_00002	05/24/21	Wellington Laboratories	Lot LPFDS0516		(Purchased Reagent)		Perfluorodecane Sulfonic acid	48.2 ug/mL
...LCPFHpA_00008	12/02/21	Wellington Laboratories	Lot PFHpA1216		(Purchased Reagent)		Perfluoroheptanoic acid (PFHpA)	50 ug/mL
...LCPFHpsA_00003	09/01/22	Wellington Laboratories	Lot LPFHps0817		(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
...LCPFFHxA_00007	12/22/20	Wellington Laboratories	Lot PFHxA1215		(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
...LCPFFHxS-br_00004	07/03/20	Wellington Laboratories	Lot brPFHxSK0615		(Purchased Reagent)		Perfluorohexanesulfonic acid (PFHxS)	45.5 ug/mL
...LCPFNA_00009	07/20/22	Wellington Laboratories	Lot PFNA0717		(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
...LCPFNS_00003	09/27/22	Wellington Laboratories	Lot LPFNS0917		(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
...LCPFOA_00009	09/27/22	Wellington Laboratories	Lot PFOA0917		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
...LCPFOS-br_00004	10/14/20	Wellington Laboratories	Lot brPFOSK1015		(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
...LCPFOSA_00010	09/30/21	Wellington Laboratories	Lot FOSA0916I		(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
...LCPFFPeA_00007	05/31/21	Wellington Laboratories	Lot FFPeA0516		(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL
...LCPFPes_00003	01/11/22	Wellington Laboratories	Lot LPFPes0117		(Purchased Reagent)		Perfluoropentanesulfonic acid	46.9 ug/mL
...LCPFFTeDA_00006	12/09/20	Wellington Laboratories	Lot PFTeDA1215		(Purchased Reagent)		Perfluorotetradecanoic acid	50 ug/mL
...LCPFTTrDA_00006	02/12/21	Wellington Laboratories	Lot FTTrDA0216		(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
...LCPFFuDA_00007	10/18/21	Wellington Laboratories	Lot FFuDA1016		(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL
LCPFC_LL1_00006	11/18/18	06/05/18	MeOH/H2O, Lot 90285	200 mL	LCMPFC_ALL_SU_00075	10 mL	d3-NMeFOSAA	2.5 ng/mL
							d5-NETFOSAA	2.5 ng/mL
							M2-6:2FtS	2.375 ng/mL
							M2-8:2FtS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFOA	2.5 ng/mL
							13C2-PFTeDA	2.5 ng/mL
							13C4-PFHpA	2.5 ng/mL
							13C5-PFPeA	2.5 ng/mL
							13C8 FOSA	2.5 ng/mL
							13C4 PFBA	2.5 ng/mL
							13C3-PFBS	2.325 ng/mL
							13C2 PFDA	2.5 ng/mL
							13C2 PFDoA	2.5 ng/mL
							13C2 PFHxA	2.5 ng/mL
							1802 PFHxS	2.365 ng/mL
							13C5 PFNA	2.5 ng/mL
							13C4 PFOA	2.5 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.LCMPFC_ALL_SU_00075	12/05/18	06/05/18	Methanol, Lot Baker 141039	200 mL	LCPFCSP_00151	500 uL	13C4 PFOS	2.39 ng/mL
							13C2 PFUnA	2.5 ng/mL
							Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.02335 ng/mL
							Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.0237 ng/mL
							Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.02395 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	0.025 ng/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	0.025 ng/mL
							Perfluorobutyric acid	0.025 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	0.0221 ng/mL
							Perfluorodecanoic acid	0.025 ng/mL
							Perfluorododecanoic acid	0.025 ng/mL
							Perfluorodecane Sulfonic acid	0.0241 ng/mL
							Perfluoroheptanoic acid (PFHpA)	0.025 ng/mL
							Perfluoroheptanesulfonic acid	0.0238 ng/mL
							Perfluorohexanoic acid	0.025 ng/mL
							Perfluorohexanesulfonic acid (PFHxS)	0.02275 ng/mL
							Perfluorononanoic acid (PFNA)	0.025 ng/mL
							Perfluorooctanoic acid (PFOA)	0.025025 ng/mL
							Perfluorononanesulfonic acid (PFOS)	0.0232 ng/mL
							Perfluorooctane Sulfonamide	0.025 ng/mL
							Perfluoropentanoic acid	0.025 ng/mL
							Perfluoropentanesulfonic acid	0.02345 ng/mL
							Perfluorotetradecanoic acid	0.025 ng/mL
							Perfluorotridecanoic acid	0.025 ng/mL
							Perfluoroundecanoic acid	0.025 ng/mL
							d3-NMeFOSAA	0.05 ug/mL
							d5-NETFOSAA	0.05 ug/mL
							LCM2-6:FTS 00008	0.0475 ug/mL
							LCM2-8:2FTS 00010	0.0479 ug/mL
							LCM2PFHxDA 00016	0.05 ug/mL
							LCM2PFOA 00008	0.05 ug/mL
							LCM2PFTeDA 00014	0.05 ug/mL
							LCM4PFHPA 00014	0.05 ug/mL
							LCM5PFPEA_00015	0.05 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCd3-NMeFOSAA 00008	11/08/22		WELLINGTON, Lot d3NMeFOSAA1117					
..LCd5-NEtFOSAA 00008	11/08/22		WELLINGTON, Lot d5NEtFOSAA1117					
..LCM2-6:FTS 00008	02/16/23		WELLINGTON, Lot M262FTS0218					
..LCM2-8:2FTS 00010	01/24/23		WELLINGTON, Lot M282FTS0118					
..LCM2PFHxDA 00016	07/13/22		Wellington Laboratories, Lot M2PFHxDA0717					
..LCM2PFOA 00008	02/12/21		Wellington Laboratories, Lot M2PFOA0216					
..LCM2PFTeDA 00014	11/30/22		Wellington Laboratories, Lot M2PFTeDA1117					
..LCM4PFHFA 00014	05/03/22		Wellington Laboratories, Lot M4PFHFA0517					
..LCM5PFPEA 00015	07/20/22		Wellington Laboratories, Lot M5PFPEA0717					
..LCM8FOSA 00019	10/11/22		Wellington Laboratories, Lot M8FOSA1017I					
..LCMPFBA 00015	02/16/23		Wellington Laboratories, Lot MPFBA0218					
..LCMPFBS 00008	02/15/23		Wellington Laboratories, Lot M3PFBS0218					
..LCMPFDA 00020	02/16/23		Wellington Laboratories, Lot MPFDA0218					
..LCMPFDoA 00015	02/16/23		Wellington Laboratories, Lot MPFDoA0218					
..LCMPFHxA 00022	10/27/22		Wellington Laboratories, Lot MPFHxA1017					
..LCMPFHxS 00015	03/22/23		Wellington Laboratories, Lot MPFHxS0318					
..LCMPFNA 00015	12/14/22		Wellington Laboratories, Lot MPFNA1217					
..LCMPFOA 00019	05/04/23		Wellington Laboratories, Lot MPFOA0418					
..LCMPFOS 00027	02/15/23		Wellington Laboratories, Lot MPFOS0218					
..LCMPFUDa 00017	11/22/21		Wellington Laboratories, Lot MPFUDa1116					
..LCPFCS_P_00151	11/18/18	05/17/18	Methanol, Lot 090285	10 mL	LCPFCS_P_00148	200 uL	Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	0.00934 ug/mL
							Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.00948 ug/mL
							Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	0.00958 ug/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	0.01 ug/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	0.01 ug/mL
							Perfluorobutyric acid	0.01 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	0.00884 ug/mL
							Perfluorodecanoic acid	0.01 ug/mL
							Perfluorododecanoic acid	0.01 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCPFCSP_00148	11/18/18	05/17/18	Methanol, Lot 090285	10 mL	LC4:2FTS_00005	100 uL	Perfluorodecane Sulfonic acid	0.00964 ug/mL
							Perfluoroheptanoic acid (PFHpA)	0.01 ug/mL
							Perfluoroheptanesulfonic acid	0.00952 ug/mL
							Perfluorohexanoic acid	0.01 ug/mL
							Perfluorohexanesulfonic acid (PFHxS)	0.0091 ug/mL
							Perfluorononanoic acid (PFNA)	0.01 ug/mL
							Perfluorooctanoic acid (PFOA)	0.01001 ug/mL
							Perfluorononanesulfonic acid	0.0096 ug/mL
							Perfluorooctanesulfonic acid (PFOS)	0.00928 ug/mL
							Perfluorooctane Sulfonamide	0.01 ug/mL
							Perfluoropentanoic acid	0.01 ug/mL
							Perfluoropentanesulfonic acid	0.00938 ug/mL
							Perfluorotetradecanoic acid	0.01 ug/mL
							Perfluorotridecanoic acid	0.01 ug/mL
							Perfluoroundecanoic acid	0.01 ug/mL
							Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	0.467 ug/mL
	LC6:2FTS_00007	100 uL	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.474 ug/mL				
	LC8:2FTS_00007	100 uL	Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	0.479 ug/mL				
	LCbr-NETfOSAA_00001	100 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL				
	LCbr-NMeFOSAA_00001	100 uL	N-methyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL				
	LCPFEA_00008	100 uL	Perfluorobutyric acid	0.5 ug/mL				
	LCPFBS_00009	100 uL	Perfluorobutanesulfonic acid (PFBS)	0.442 ug/mL				
	LCPFDA_00008	100 uL	Perfluorodecanoic acid	0.5 ug/mL				
	LCPFDoA_00008	100 uL	Perfluorododecanoic acid	0.5 ug/mL				
	LCPFDS_00008	100 uL	Perfluorodecane Sulfonic acid	0.482 ug/mL				
	LCPFHpA_00011	100 uL	Perfluoroheptanoic acid (PFHpA)	0.5 ug/mL				
	LCPFHpSA_00003	100 uL	Perfluoroheptanesulfonic acid	0.476 ug/mL				
	LCPFHxA_00010	100 uL	Perfluorohexanoic acid	0.5 ug/mL				
	LCPFHxS-br_00006	100 uL	Perfluorohexanesulfonic acid (PFHxS)	0.455 ug/mL				
	LCPFNA_00010	100 uL	Perfluorononanoic acid (PFNA)	0.5 ug/mL				
	LCPFNS_00003	100 uL	Perfluorooctanoic acid (PFOA)	0.5005 ug/mL				
	LCPFOA_00011	100 uL	Perfluorononanesulfonic acid	0.48 ug/mL				
	LCPFOS-br_00007	100 uL	Perfluorooctanoic acid (PFOA)	0.5005 ug/mL				
		100 uL	Perfluorooctanesulfonic acid (PFOS)	0.464 ug/mL				

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento

Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
...LC4:2FtS_00005	12/12/21		WELLINGTON, Lot 42FtS1216		LCPFOSA_00013	100 uL	Perfluorooctane Sulfonamide	0.5 ug/mL
					LCPFPeA_00008	100 uL	Perfluoropentanoic acid	0.5 ug/mL
					LCPFPeS_00003	100 uL	Perfluoropentanesulfonic acid	0.469 ug/mL
					LCPFTeDA_00008	100 uL	Perfluorotetradecanoic acid	0.5 ug/mL
					LCPFTTrDA_00008	100 uL	Perfluorotridecanoic acid	0.5 ug/mL
...LC6:2FtS_00007	04/20/22		WELLINGTON, Lot 62FtS0417		LCPFUDA_00008	100 uL	Perfluoroundecanoic acid	0.5 ug/mL
					(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
					(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
					(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL
					(Purchased Reagent)		N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
...LCbr-NMeFOSAA_00001	01/17/23		WELLINGTON, Lot brNEtFOSAA0118		(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
					(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
					(Purchased Reagent)		Perfluorobutyric acid	50 ug/mL
					(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
					(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
...LCPFDA_00008	05/29/22		Wellington Laboratories, Lot PFDA0517		(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorododecanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorodecane Sulfonic acid	48.2 ug/mL
					(Purchased Reagent)		Perfluoroheptanoic acid (PFHpA)	50 ug/mL
					(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
...LCPFHxA_00010	09/27/22		Wellington Laboratories, Lot PFHxA0917		(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorohexanesulfonic acid (PFHxS)	45.5 ug/mL
					(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.05 ug/mL
					(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
...LCPFOS-br_00007	09/27/22		Wellington Laboratories, Lot PFOA0917		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
					(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
					(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
					(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluoropentanesulfonic acid	46.9 ug/mL
...LCPFTrDA_00008	09/30/21		Wellington Laboratories, Lot PFTrDA0916		(Purchased Reagent)		Perfluorotetradecanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL
					(Purchased Reagent)		d3-NMeFOSAA	2.5 ng/mL
					(Purchased Reagent)		d5-NMeFOSAA	2.5 ng/mL
LCPFC_LL2_00004	08/20/18	02/22/18	MeOH/H2O, Lot 090285	200 mL	LCMPFC_ALL_SU_00041	10 mL	M2-6:2FtS	2.375 ng/mL
							M2-8:2FtS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFOA	2.5 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C2-PFTeDA	2.5 ng/mL
							13C4-PFHpA	2.5 ng/mL
							13C5-PFPeA	2.5 ng/mL
							13C8 FOSA	2.5 ng/mL
							13C4 PFBA	2.5 ng/mL
							13C3-PFBS	2.325 ng/mL
							13C2 PFDA	2.5 ng/mL
							13C2 PFDoA	2.5 ng/mL
							13C2 PFHxA	2.5 ng/mL
							18O2 PFHxS	2.365 ng/mL
							13C5 PFNA	2.5 ng/mL
							13C4 PFOA	2.5 ng/mL
							13C4 PFOS	2.39 ng/mL
							13C2 PFUnA	2.5 ng/mL
					LCPFCSP_00136	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.0467 ng/mL
							Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.0474 ng/mL
							Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.0479 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	0.05 ng/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	0.05 ng/mL
							Perfluorobutyric acid	0.05 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	0.0442 ng/mL
							Perfluorodecanoic acid	0.05 ng/mL
							Perfluorododecanoic acid	0.05 ng/mL
							Perfluorodecane Sulfonic acid	0.0482 ng/mL
							Perfluoroheptanoic acid (PFHpA)	0.05 ng/mL
							Perfluoroheptanesulfonic acid	0.0476 ng/mL
							Perfluorohexanoic acid	0.05 ng/mL
							Perfluorohexanesulfonic acid (PFHxS)	0.0455 ng/mL
							Perfluorononanoic acid (PFNA)	0.05 ng/mL
							Perfluorononanesulfonic acid	0.048 ng/mL
							Perfluorooctanoic acid (PFOA)	0.05 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	0.0464 ng/mL
							Perfluorooctane Sulfonamide	0.05 ng/mL
							Perfluoropentanoic acid	0.05 ng/mL
							Perfluoropentanesulfonic acid	0.0469 ng/mL
							Perfluorotetradecanoic acid	0.05 ng/mL
							Perfluorotridecanoic acid	0.05 ng/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCMPFC_ALL_SU_00041	08/20/18	02/20/18	Methanol, Lot Baker 141039	200 mL	LCd3-NMeFOSAA_00006	200 uL	Perfluoroundecanoic acid d3-NMeFOSAA	0.05 ng/mL 0.05 ug/mL
..LCd3-NMeFOSAA 00006	05/19/22	WELLINGTON, Lot d3NMeFOSAA0517			(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
..LCd5-NETFOSAA 00006	11/08/22	WELLINGTON, Lot d5NETFOSAA1117			(Purchased Reagent)		d5-NETFOSAA	50 ug/mL
..LCM2-6:FTS 00006	02/17/22	WELLINGTON, Lot M262FTS0217			(Purchased Reagent)		M2-6:2FTS	47.5 ug/mL
..LCM2-8:2FTS 00008	07/05/22	WELLINGTON, Lot M282FTS0717			(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
..LCM2PFHxDA 00013	07/13/22	Wellington Laboratories, Lot M2PFHxDA0717			(Purchased Reagent)		13C2-PFHxDA	50 ug/mL
..LCM2PFOA 00008	02/12/21	Wellington Laboratories, Lot M2PFOA0216			(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCM2PFTeDA 00012	11/30/22	Wellington Laboratories, Lot M2PFTeDA1117			(Purchased Reagent)		13C2-PFTeDA	50 ug/mL
..LCM4PFHxA 00012	05/03/22	Wellington Laboratories, Lot M4PFHxA0517			(Purchased Reagent)		13C4-PFHxA	50 ug/mL
..LCM5PFPEA 00013	07/20/22	Wellington Laboratories, Lot M5PFPEA0717			(Purchased Reagent)		13C5-PFPEA	50 ug/mL
..LCM8FOSA 00016	10/11/22	Wellington Laboratories, Lot M8FOSA1017I			(Purchased Reagent)		13C8 FOSA	50 ug/mL
..LCMPFBA 00013	04/12/22	Wellington Laboratories, Lot MPFBA0417			(Purchased Reagent)		13C4 FBA	50 ug/mL
..LCMPFBS 00006	05/24/22	Wellington Laboratories, Lot M3PFBS0815			(Purchased Reagent)		13C3-PFBS	46.5 ug/mL
..LCMPFDA 00018	07/13/22	Wellington Laboratories, Lot MPFDA0717			(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFDoA 00013	05/23/22	Wellington Laboratories, Lot MPFDoA0517			(Purchased Reagent)		13C2 PFDoA	50 ug/mL
..LCMPFHxA 00019	10/27/22	Wellington Laboratories, Lot MPFHxA1017			(Purchased Reagent)		13C2 PFHxA	50 ug/mL
..LCMPFHxS 00013	02/17/22	Wellington Laboratories, Lot MPFHxS0217			(Purchased Reagent)		1802 PFHxS	47.3 ug/mL
..LCMPFNA 00013	09/30/21	Wellington Laboratories, Lot MPFNA0916			(Purchased Reagent)		13C5 PFNA	50 ug/mL
..LCMPFOA 00017	10/17/22	Wellington Laboratories, Lot MPFOA1017			(Purchased Reagent)		13C4 PFOA	50 ug/mL
..LCMPFOS 00025	10/17/22	Wellington Laboratories, Lot MPFOS1017			(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
..LCMPFUDa 00014	11/22/21	Wellington Laboratories, Lot MPFUDa1116			(Purchased Reagent)		13C2 PFUnA	50 ug/mL
..LCPCSP_00136	08/20/18	02/20/18	Methanol, Lot 090285	10000 uL	LCPCSP_00132	1 mL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.0934 ug/mL
							Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.0948 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCPFCSP_00132	08/20/18	02/20/18	Methanol, Lot 090285	10000 uL	LC4:2Fts_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.0958 ug/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	0.1 ug/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	0.1 ug/mL
							Perfluorobutyric acid	0.1 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	0.0884 ug/mL
							Perfluorodecanoic acid	0.1 ug/mL
							Perfluorododecanoic acid	0.1 ug/mL
							Perfluorodecane Sulfonic acid	0.0964 ug/mL
							Perfluoroheptanoic acid (PFHpA)	0.1 ug/mL
							Perfluoroheptanesulfonic acid	0.0952 ug/mL
							Perfluorohexanoic acid	0.1 ug/mL
							Perfluorohexanesulfonic acid (PFHxS)	0.091 ug/mL
							Perfluorononanoic acid (PFNA)	0.1 ug/mL
							Perfluorononanesulfonic acid	0.096 ug/mL
							Perfluorooctanoic acid (PFOA)	0.1 ug/mL
							Perfluorooctanesulfonic acid (PFOS)	0.0928 ug/mL
							Perfluorooctane Sulfonamide	0.1 ug/mL
							Perfluoropentanoic acid	0.1 ug/mL
							Perfluoropentanesulfonic acid	0.0938 ug/mL
							Perfluorotetradecanoic acid	0.1 ug/mL
							Perfluorotridecanoic acid	0.1 ug/mL
							Perfluoroundecanoic acid	0.1 ug/mL
							Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.934 ug/mL
							Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.948 ug/mL
							Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.958 ug/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	1 ug/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	1 ug/mL
							Perfluorobutyric acid	1 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	0.884 ug/mL
							Perfluorodecanoic acid	1 ug/mL
							Perfluorododecanoic acid	1 ug/mL
							Perfluorodecane Sulfonic acid	0.964 ug/mL

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
...LC4:2Fts_00003	12/12/21		WELLINGTON, Lot 42Fts1216		LCPFHpA_00008	200 uL	Perfluoroheptanoic acid (PFHpA)	1 ug/mL
...					LCPFHpSA_00003	200 uL	Perfluoroheptanesulfonic acid	0.952 ug/mL
...					LCPFHxA_00007	200 uL	Perfluorohexanoic acid	1 ug/mL
...					LCPFHxS-br_00004	200 uL	Perfluorohexanesulfonic acid (PFHxS)	0.91 ug/mL
...					LCPFNA_00009	200 uL	Perfluorononanoic acid (PFNA)	1 ug/mL
...					LCPFNS_00003	200 uL	Perfluorononanesulfonic acid	0.96 ug/mL
...					LCPFOA_00009	200 uL	Perfluorooctanoic acid (PFOA)	1 ug/mL
...					LCPFOS-br_00004	200 uL	Perfluorooctanesulfonic acid (PFOS)	0.928 ug/mL
...					LCPFOSA_00010	200 uL	Perfluorooctane Sulfonamide	1 ug/mL
...					LCPFPeA_00007	200 uL	Perfluoropentanoic acid	1 ug/mL
...					LCPFPeS_00003	200 uL	Perfluoropentanesulfonic acid	0.938 ug/mL
...					LCPFTeDA_00006	200 uL	Perfluorotetradecanoic acid	1 ug/mL
...					LCPFTrDA_00006	200 uL	Perfluorotridecanoic acid	1 ug/mL
...					LCPFUDA_00007	200 uL	Perfluoroundecanoic acid	1 ug/mL
...					(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
...LC6:2Fts_00003	06/25/21		WELLINGTON, Lot 62Fts0616		(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
...					(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL
...LCN-EtFOSAA_00004	09/30/21		WELLINGTON, Lot NetFOSAA0916		(Purchased Reagent)		N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
...LCN-MeFOSAA_00005	10/12/21		WELLINGTON, Lot NMeFOSAA0916		(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
...LCPFBA_00007	05/27/21	Wellington Laboratories, Lot PFBA0516			(Purchased Reagent)		Perfluorobutyric acid	50 ug/mL
...LCPFBS_00008	03/15/21	Wellington Laboratories, Lot LPFBS0316			(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
...LCPFDA_00008	05/29/22	Wellington Laboratories, Lot PFDA0517			(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
...LCPFDoA_00008	05/29/22	Wellington Laboratories, Lot PFDoA0517			(Purchased Reagent)		Perfluorododecanoic acid	50 ug/mL
...LCPFDSA_00002	05/24/21	Wellington Laboratories, Lot LPFDS0516			(Purchased Reagent)		Perfluorodecane Sulfonic acid	48.2 ug/mL
...LCPFHpA_00008	12/02/21	Wellington Laboratories, Lot PFHpA1216			(Purchased Reagent)		Perfluoroheptanoic acid (PFHpA)	50 ug/mL
...LCPFHpSA_00003	09/01/22	Wellington Laboratories, Lot LPFHpS0817			(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
...LCPFHxA_00007	12/22/20	Wellington Laboratories, Lot PFHxA1215			(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
...LCPFHxS-br_00004	07/03/20	Wellington Laboratories, Lot brPFHxSK0615			(Purchased Reagent)		Perfluorohexanesulfonic acid (PFHxS)	45.5 ug/mL
...LCPFNA_00009	07/20/22	Wellington Laboratories, Lot PFNA0717			(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
...LCPFNS_00003	09/27/22	Wellington Laboratories, Lot LPFNS0917			(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
...LCPFOA_00009	09/27/22	Wellington Laboratories, Lot PFOA0917			(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
...LCPFOS-br_00004	10/14/20	Wellington Laboratories, Lot brPFOSK1015			(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
...LCPFOSA_00010	09/30/21	Wellington Laboratories, Lot FOSA0916I			(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
...LCPFPeA_00007	05/31/21	Wellington Laboratories, Lot PFPeA0516			(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
...LCPFPES 00003	01/11/22	Wellington Laboratories, Lot LPFPES0117			(Purchased Reagent)		Perfluoropentanesulfonic acid	46.9 ug/mL
...LCPFTeDA 00006	12/09/20	Wellington Laboratories, Lot PFTeDA1215			(Purchased Reagent)		Perfluorotetradecanoic acid	50 ug/mL
...LCPFTTrDA 00006	02/12/21	Wellington Laboratories, Lot PFTTrDA0216			(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
...LCPFUdA 00007	10/18/21	Wellington Laboratories, Lot PFUdA1016			(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL
LCPPFC_LL2_00005	11/18/18	06/05/18 MeOH/H2O, Lot 090285		200 mL	LCMPFC_ALL_SU_00075	10 mL	d3-NMeFOSAA	2.5 ng/mL
							d5-NEtFOSAA	2.5 ng/mL
							M2-6:2FTS	2.375 ng/mL
							M2-8:2FTS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFOA	2.5 ng/mL
							13C2-PFTeDA	2.5 ng/mL
							13C4-PFHpA	2.5 ng/mL
							13C5-PFPeA	2.5 ng/mL
							13C8 FOSA	2.5 ng/mL
							13C4 PFBA	2.5 ng/mL
							13C3-PFBS	2.325 ng/mL
							13C2 PFDA	2.5 ng/mL
							13C2 PFDoA	2.5 ng/mL
							13C2 PFHxA	2.5 ng/mL
							18O2 PFHxS	2.365 ng/mL
							13C5 PFNA	2.5 ng/mL
							13C4 PFOA	2.5 ng/mL
							13C4 PFOS	2.39 ng/mL
							13C2 PFUnA	2.5 ng/mL
					LCPPFCSP_00151	1000 uL	Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	0.0467 ng/mL
							Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.0474 ng/mL
							Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	0.0479 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	0.05 ng/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	0.05 ng/mL
							Perfluorobutyric acid	0.05 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	0.0442 ng/mL
							Perfluorodecanoic acid	0.05 ng/mL
							Perfluorododecanoic acid	0.05 ng/mL
							Perfluorodecane Sulfonic acid	0.0482 ng/mL
							Perfluoroheptanoic acid (PFHpA)	0.05 ng/mL
							Perfluoroheptanesulfonic acid	0.0476 ng/mL
							Perfluorohexanoic acid	0.05 ng/mL
							Perfluorohexanesulfonic acid (PFHxS)	0.0455 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCMPFC_ALL_SU_00075	12/05/18	06/05/18	Methanol, Lot Baker 141039	200 mL	LCd3-NMeFOSAA_00008	200 uL		
					LCd5-NETFOSAA_00008	200 uL	d5-NETFOSAA	0.05 ug/mL
					LCM2-6:FTS_00008	200 uL	M2-6:2FTS	0.0475 ug/mL
					LCM2-8:2FTS_00010	200 uL	M2-8:2FTS	0.0479 ug/mL
					LCM2PFHxDA_00016	200 uL	13C2-PFHxDA	0.05 ug/mL
					LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
					LCM2PFTeDA_00014	200 uL	13C2-PFTeDA	0.05 ug/mL
					LCM4PFHPA_00014	200 uL	13C4-PFHxPA	0.05 ug/mL
					LCM5PFPEA_00015	200 uL	13C5-PFPeA	0.05 ug/mL
					LCM8FOSA_00019	200 uL	13C8 FOSA	0.05 ug/mL
					LCMPFBA_00015	200 uL	13C4 PFBA	0.05 ug/mL
					LCMPFBS_00008	200 uL	13C3-PFBS	0.0465 ug/mL
					LCMPFDA_00020	200 uL	13C2 PFDA	0.05 ug/mL
					LCMPFDoA_00015	200 uL	13C2 PFDoA	0.05 ug/mL
					LCMPFHxA_00022	200 uL	13C2 PFHxA	0.05 ug/mL
					LCMPFHxS_00015	200 uL	1802 PFHxS	0.0473 ug/mL
					LCMPFNA_00015	200 uL	13C5 PFNA	0.05 ug/mL
					LCMPFOA_00019	200 uL	13C4 PFOA	0.05 ug/mL
					LCMPFOS_00027	200 uL	13C4 PFOS	0.0478 ug/mL
					LCMPFuD_A_00017	200 uL	13C2 PFUnA	0.05 ug/mL
..LCd3-NMeFOSAA_00008	11/08/22		WELLINGTON, Lot d3NMeFOSAA1117		(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
..LCd5-NETFOSAA_00008	11/08/22		WELLINGTON, Lot d5NETFOSAA1117		(Purchased Reagent)		d5-NETFOSAA	50 ug/mL
..LCM2-6:FTS_00008	02/16/23		WELLINGTON, Lot M262FTS0218		(Purchased Reagent)		M2-6:2FTS	47.5 ug/mL
..LCM2-8:2FTS_00010	01/24/23		WELLINGTON, Lot M282FTS0118		(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
..LCM2PFHxDA_00016	07/13/22		Wellington Laboratories, Lot M2PFHxDA0717		(Purchased Reagent)		13C2-PFHxDA	50 ug/mL
..LCM2PFOA_00008	02/12/21		Wellington Laboratories, Lot M2PFOA0216		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCM2PFTeDA_00014	11/30/22		Wellington Laboratories, Lot M2PFTeDA1117		(Purchased Reagent)		13C2-PFTeDA	50 ug/mL
..LCM4PFHPA_00014	05/03/22		Wellington Laboratories, Lot M4PFHPA0517		(Purchased Reagent)		13C4-PFHxPA	50 ug/mL
..LCM5PFPEA_00015	07/20/22		Wellington Laboratories, Lot M5PFPeA0717		(Purchased Reagent)		13C5-PFPeA	50 ug/mL
..LCM8FOSA_00019	10/11/22		Wellington Laboratories, Lot M8FOSA1017I		(Purchased Reagent)		13C8 FOSA	50 ug/mL
..LCMPFBA_00015	02/16/23		Wellington Laboratories, Lot MPFBA0218		(Purchased Reagent)		13C4 PFBA	50 ug/mL
..LCMPFBS_00008	02/15/23		Wellington Laboratories, Lot M3PFBS0218		(Purchased Reagent)		13C3-PFBS	46.5 ug/mL
..LCMPFDA_00020	02/16/23		Wellington Laboratories, Lot MPFDA0218		(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFDoA_00015	02/16/23		Wellington Laboratories, Lot MPFDoA0218		(Purchased Reagent)		13C2 PFDoA	50 ug/mL
..LCMPFHxA_00022	10/27/22		Wellington Laboratories, Lot MPFHxA1017		(Purchased Reagent)		13C2 PFHxA	50 ug/mL
..LCMPFHxS_00015	03/22/23		Wellington Laboratories, Lot MPFHxS0318		(Purchased Reagent)		1802 PFHxS	47.3 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCMPFNA_00015	12/14/22	Wellington Laboratories, Lot MPFNA1217			(Purchased Reagent)		13C5 PFNA	50 ug/mL
..LCMPFOA_00019	05/04/23	Wellington Laboratories, Lot MPFOA0418			(Purchased Reagent)		13C4 PFOA	50 ug/mL
..LCMPFOS_00027	02/15/23	Wellington Laboratories, Lot MPFOS0218			(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
..LCMPFUDa_00017	11/22/21	Wellington Laboratories, Lot MPFUDa1116			(Purchased Reagent)		13C2 PFUnA	50 ug/mL
.LCPPFCSP_00151	11/18/18	05/17/18 Methanol, Lot 090285		10 mL	LCPPFCSP_00148	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.00934 ug/mL
							Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.00948 ug/mL
							Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.00958 ug/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	0.01 ug/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	0.01 ug/mL
							Perfluorobutyric acid	0.01 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	0.00884 ug/mL
							Perfluorodecanoic acid	0.01 ug/mL
							Perfluorododecanoic acid	0.01 ug/mL
							Perfluorodecane Sulfonic acid	0.00964 ug/mL
							Perfluoroheptanoic acid (PFHpA)	0.01 ug/mL
							Perfluoroheptanesulfonic acid	0.00952 ug/mL
							Perfluorohexanoic acid	0.01 ug/mL
							Perfluorohexanesulfonic acid (PFHxS)	0.0091 ug/mL
							Perfluorononanoic acid (PFNA)	0.01 ug/mL
							Perfluorooctanoic acid (PFOA)	0.01001 ug/mL
							Perfluorononanesulfonic acid	0.0096 ug/mL
							Perfluorooctanesulfonic acid (PFOS)	0.00928 ug/mL
							Perfluorooctane Sulfonamide	0.01 ug/mL
							Perfluoropentanoic acid	0.01 ug/mL
							Perfluoropentanesulfonic acid	0.00938 ug/mL
							Perfluorotetradecanoic acid	0.01 ug/mL
							Perfluorotridecanoic acid	0.01 ug/mL
							Perfluoroundecanoic acid	0.01 ug/mL
..LCPPFCSP_00148	11/18/18	05/17/18	Methanol, Lot 090285	10 mL	LC4:2FTS_00005	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.467 ug/mL
					LC6:2FTS_00007	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.474 ug/mL
					LC8:2FTS_00007	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.479 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
...LC4:2Fts_00005	12/12/21		WELLINGTON, Lot 42Fts1216		LCbr-NEtFOSAA_00001	100 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
...LC6:2Fts_00007	04/20/22		WELLINGTON, Lot 62Fts0417		LCbr-NMeFOSAA_00001	100 uL	N-methyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
...LC8:2Fts_00007	12/12/21		WELLINGTON, Lot 82Fts1216		LCPFBA_00008	100 uL	Perfluorobutyric acid	0.5 ug/mL
...LCbr-NEtFOSAA_00001	01/17/23		WELLINGTON, Lot brNEtFOSAA0118		LCPFBS_00009	100 uL	Perfluorobutanesulfonic acid (PFBS)	0.442 ug/mL
...LCbr-NMeFOSAA_00001	01/17/23		WELLINGTON, Lot brNMeFOSAA0118		LCPFDA_00008	100 uL	Perfluorodecanoic acid	0.5 ug/mL
...LCPFBA_00008	05/29/22		Wellington Laboratories, Lot PFBA0517		LCPFDoA_00008	100 uL	Perfluorodecanoic acid	0.5 ug/mL
...LCPFBS_00009	09/21/22		Wellington Laboratories, Lot LPFBS0917		LCPFDS_00008	100 uL	Perfluorodecane Sulfonic acid	0.482 ug/mL
...LCPFDA_00008	05/29/22		Wellington Laboratories, Lot PFDA0517		LCPFHpA_00011	100 uL	Perfluoroheptanoic acid (PFHpA)	0.5 ug/mL
...LCPFDoA_00008	05/29/22		Wellington Laboratories, Lot PFDoA0517		LCPFHpsA_00003	100 uL	Perfluoroheptanesulfonic acid	0.476 ug/mL
...LCPFDS_00008	11/08/22		Wellington Laboratories, Lot LPFDS1117		LCPFHxA_00010	100 uL	Perfluorohexanoic acid	0.5 ug/mL
...LCPFHpA_00011	09/27/22		Wellington Laboratories, Lot PFHpA0917		LCPFHxS-br_00006	100 uL	Perfluorohexanesulfonic acid (PFHxS)	0.455 ug/mL
					LCPFNA_00010	100 uL	Perfluorononanoic acid (PFNA)	0.5 ug/mL
					LCPFNS_00003	100 uL	Perfluorooctanoic acid (PFOA)	0.5005 ug/mL
					LCPFoA_00011	100 uL	Perfluorononanesulfonic acid	0.48 ug/mL
					LCPFOS-br_00007	100 uL	Perfluorooctanoic acid (PFOA)	0.5005 ug/mL
					LCPFOSA_00013	100 uL	Perfluorooctane Sulfonamide	0.5 ug/mL
					LCPFPeA_00008	100 uL	Perfluoropentanoic acid	0.5 ug/mL
					LCPFPeS_00003	100 uL	Perfluoropentanesulfonic acid	0.469 ug/mL
					LCPFTeDA_00008	100 uL	Perfluorotetradecanoic acid	0.5 ug/mL
					LCPFTrDA_00008	100 uL	Perfluorotridecanoic acid	0.5 ug/mL
					LCPFUDA_00008	100 uL	Perfluoroundecanoic acid	0.5 ug/mL
							Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
							Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
							Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
							Perfluorobutyric acid	50 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
							Perfluorodecanoic acid	50 ug/mL
							Perfluorodecanoic acid	50 ug/mL
							Perfluorodecane Sulfonic acid	48.2 ug/mL
							Perfluoroheptanoic acid (PFHpA)	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
...LCPFHSA 00003	09/01/22	Wellington Laboratories, Lot LPFHSA0817			(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
...LCPFHxA 00010	09/27/22	Wellington Laboratories, Lot PFHxA0917			(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
...LCPFHxS-br_00006	01/04/22	Wellington Laboratories, Lot brPFHxSK0117			(Purchased Reagent)		Perfluorohexanesulfonic acid (PFHxS)	45.5 ug/mL
...LCPFNA_00010	07/20/22	Wellington Laboratories, Lot PFNA0717			(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
...LCPFNS 00003	09/27/22	Wellington Laboratories, Lot LPFNS0917			(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.05 ug/mL
...LCPFOA 00011	09/27/22	Wellington Laboratories, Lot PFOA0917			(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
...LCPFOS-br_00007	01/12/22	Wellington Laboratories, Lot brPFOSK0117			(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
...LCPFOSA 00013	09/01/22	Wellington Laboratories, Lot FOSA0817I			(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
...LCPFFPeA 00008	06/14/22	Wellington Laboratories, Lot FFPeA0617			(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
...LCPFFPeS 00003	01/11/22	Wellington Laboratories, Lot LPFFeS0117			(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL
...LCPFFTeDA 00008	09/30/21	Wellington Laboratories, Lot PFFTeDA0916			(Purchased Reagent)		Perfluorotetradecanoic acid	46.9 ug/mL
...LCPFFTrDA 00008	05/02/22	Wellington Laboratories, Lot PFFTrDA0517			(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
...LCPFFuDA 00008	10/18/21	Wellington Laboratories, Lot PFuDA1016			(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL
LCPPFC_LL3_00004	08/20/18	02/22/18 MeOH/H2O, Lot 090285		200 mL	LCMPFC_ALL_SU_00041	10 mL	d3-NMeFOSAA	2.5 ng/mL
							d5-NETFOSAA	2.5 ng/mL
							M2-6:2FTS	2.375 ng/mL
							M2-8:2FTS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFOA	2.5 ng/mL
							13C2-PFTeDA	2.5 ng/mL
							13C4-PFHpa	2.5 ng/mL
							13C5-PFFeA	2.5 ng/mL
							13C8 FOSA	2.5 ng/mL
							13C4 PFBA	2.5 ng/mL
							13C3-PFBS	2.325 ng/mL
							13C2 PFDA	2.5 ng/mL
							13C2 PFDoA	2.5 ng/mL
							13C2 PFHxA	2.5 ng/mL
							18O2 PFHxS	2.365 ng/mL
							13C5 PFNA	2.5 ng/mL
							13C4 PFOA	2.5 ng/mL
							13C4 PFOS	2.39 ng/mL
							13C2 PFUnA	2.5 ng/mL
					LCPPFCSP_00136	500 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.2335 ng/mL
							Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.237 ng/mL
							Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.2395 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	0.25 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCMPFC_ALL_SU_00041	08/20/18	02/20/18	Methanol, Lot Baker 141039	200 mL	LCd3-NMeFOSAA_00006	200 uL	N-methyl perfluorooctane sulfonamidoacetic acid	0.25 ng/mL
							Perfluorobutyric acid	0.25 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	0.221 ng/mL
							Perfluorodecanoic acid	0.25 ng/mL
							Perfluorododecanoic acid	0.25 ng/mL
							Perfluorodecane Sulfonic acid	0.241 ng/mL
							Perfluoroheptanoic acid (PFHpA)	0.25 ng/mL
							Perfluoroheptanesulfonic acid	0.238 ng/mL
							Perfluorohexanoic acid	0.25 ng/mL
							Perfluorohexanesulfonic acid (PFHxS)	0.2275 ng/mL
							Perfluorononanoic acid (PFNA)	0.25 ng/mL
							Perfluorononanesulfonic acid	0.24 ng/mL
							Perfluorooctanoic acid (PFOA)	0.25 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	0.232 ng/mL
							Perfluorooctane Sulfonamide	0.25 ng/mL
							Perfluoropentanoic acid	0.25 ng/mL
							Perfluoropentanesulfonic acid	0.2345 ng/mL
							Perfluorotetradecanoic acid	0.25 ng/mL
							Perfluorotridecanoic acid	0.25 ng/mL
							Perfluoroundecanoic acid	0.25 ng/mL
..LCd3-NMeFOSAA_00006	05/19/22		WELLINGTON, Lot d3NMeFOSAA0517				d3-NMeFOSAA	50 ug/mL
..LCd5-NETFOSAA_00006	11/08/22		WELLINGTON, Lot d5NETFOSAA1117				d5-NETFOSAA	50 ug/mL
..LCM2-6:FTS_00006	02/17/22		WELLINGTON, Lot M262FTS0217				M2-6:2FTS	47.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCM2-8:2FTS_00008	07/05/22		WELLINGTON, Lot M282FTS0717		(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
..LCM2PFHxDA_00013	07/13/22	Wellington Laboratories, Lot M2PFHxDA0717			(Purchased Reagent)		13C2-PFHxDA	50 ug/mL
..LCM2PFOA_00008	02/12/21	Wellington Laboratories, Lot M2PFOA0216			(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCM2PFTeDA_00012	11/30/22	Wellington Laboratories, Lot M2PFTeDA1117			(Purchased Reagent)		13C2-PFTeDA	50 ug/mL
..LCM4PFHFA_00012	05/03/22	Wellington Laboratories, Lot M4PFHFA0517			(Purchased Reagent)		13C4-PFHFA	50 ug/mL
..LCM5PFPeA_00013	07/20/22	Wellington Laboratories, Lot M5PFPeA0717			(Purchased Reagent)		13C5-PFPeA	50 ug/mL
..LCM8FOSA_00016	10/11/22	Wellington Laboratories, Lot M8FOSA1017I			(Purchased Reagent)		13C8 FOSA	50 ug/mL
..LCMPFBA_00013	04/12/22	Wellington Laboratories, Lot MPFBA0417			(Purchased Reagent)		13C4 PFBA	50 ug/mL
..LCMPFBS_00006	05/24/22	Wellington Laboratories, Lot M3PFBS0815			(Purchased Reagent)		13C3-PFBS	46.5 ug/mL
..LCMPFDA_00018	07/13/22	Wellington Laboratories, Lot MPFDA0717			(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFDoA_00013	05/23/22	Wellington Laboratories, Lot MPFDoA0517			(Purchased Reagent)		13C2 PFDoA	50 ug/mL
..LCMPFHxA_00019	10/27/22	Wellington Laboratories, Lot MPFHxA1017			(Purchased Reagent)		13C2 PFHxA	50 ug/mL
..LCMPFHxS_00013	02/17/22	Wellington Laboratories, Lot MPFHxS0217			(Purchased Reagent)		1802 PFHxS	47.3 ug/mL
..LCMPFNA_00013	09/30/21	Wellington Laboratories, Lot MPFNA0916			(Purchased Reagent)		13C5 PFNA	50 ug/mL
..LCMPFOA_00017	10/17/22	Wellington Laboratories, Lot MPFOA1017			(Purchased Reagent)		13C4 PFOA	50 ug/mL
..LCMPFOS_00025	10/17/22	Wellington Laboratories, Lot MPFOS1017			(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
..LCMPFudA_00014	11/22/21	Wellington Laboratories, Lot MPFudA1116			(Purchased Reagent)	1 mL	13C2 PFUnA	50 ug/mL
..LCPFCS_P_00136	08/20/18	02/20/18 Methanol, Lot 090285		10000 uL	LCPFCS_P_00132		Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.0934 ug/mL
							Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.0948 ug/mL
							Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.0958 ug/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	0.1 ug/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	0.1 ug/mL
							Perfluorobutyric acid	0.1 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	0.0884 ug/mL
							Perfluorodecanoic acid	0.1 ug/mL
							Perfluorododecanoic acid	0.1 ug/mL
							Perfluorodecane Sulfonic acid	0.0964 ug/mL
							Perfluoroheptanoic acid (PFHpA)	0.1 ug/mL
							Perfluoroheptanesulfonic acid	0.0952 ug/mL
							Perfluorohexanoic acid	0.1 ug/mL
							Perfluorohexanesulfonic acid (PFHxS)	0.091 ug/mL
							Perfluorononanoic acid (PFNA)	0.1 ug/mL
							Perfluorononanesulfonic acid	0.096 ug/mL
							Perfluorooctanoic acid (PFOA)	0.1 ug/mL
							Perfluorooctanesulfonic acid (PFOS)	0.0928 ug/mL
							Perfluorooctane Sulfonamide	0.1 ug/mL
							Perfluoropentanoic acid	0.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCBFCSP_00132	08/20/18	02/20/18	Methanol, Lot 090285	10000 uL			Perfluoropentanesulfonic acid	0.0938 ug/mL
							Perfluorotetradecanoic acid	0.1 ug/mL
							Perfluorotridecanoic acid	0.1 ug/mL
							Perfluoroundecanoic acid	0.1 ug/mL
					LC4:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.934 ug/mL
					LC6:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.948 ug/mL
					LC8:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.958 ug/mL
					LCN-EtFOSAA_00004	200 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	1 ug/mL
					LCN-MeFOSAA_00005	200 uL	N-methyl perfluorooctane sulfonamidoacetic acid	1 ug/mL
					LCPFBA_00007	200 uL	Perfluorobutyric acid	1 ug/mL
					LCPFBS_00008	200 uL	Perfluorobutanesulfonic acid (PFBS)	0.884 ug/mL
					LCPFDA_00008	200 uL	Perfluorodecanoic acid	1 ug/mL
					LCPFDoA_00008	200 uL	Perfluorododecanoic acid	1 ug/mL
					LCPFDSA_00002	200 uL	Perfluorodecane Sulfonic acid	0.964 ug/mL
					LCPFHpA_00008	200 uL	Perfluoroheptanoic acid (PFHpA)	1 ug/mL
...LC4:2FTS_00003	12/12/21		WELLINGTON, Lot 42FTS1216		LCPFHpSA_00003	200 uL	Perfluoroheptanesulfonic acid	0.952 ug/mL
					LCPFHxA_00007	200 uL	Perfluorohexanoic acid	1 ug/mL
					LCPFHxS-br_00004	200 uL	Perfluorohexanesulfonic acid (PFHxS)	0.91 ug/mL
					LCPFNA_00009	200 uL	Perfluorononanoic acid (PFNA)	1 ug/mL
					LCPFNS_00003	200 uL	Perfluorononanesulfonic acid	0.96 ug/mL
					LCPFOA_00009	200 uL	Perfluorooctanoic acid (PFOA)	1 ug/mL
					LCPFOS-br_00004	200 uL	Perfluorooctanesulfonic acid (PFOS)	0.928 ug/mL
					LCPFOSA_00010	200 uL	Perfluorooctane Sulfonamide	1 ug/mL
					LCPFPeA_00007	200 uL	Perfluoropentanoic acid	1 ug/mL
					LCPFPeS_00003	200 uL	Perfluoropentanesulfonic acid	0.938 ug/mL
					LCPFTeDA_00006	200 uL	Perfluorotetradecanoic acid	1 ug/mL
					LCPFTrDA_00006	200 uL	Perfluorotridecanoic acid	1 ug/mL
					LCPFUDA_00007	200 uL	Perfluoroundecanoic acid	1 ug/mL
					(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
					(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
...LC8:2FTS_00003	08/22/21		WELLINGTON, Lot 82FTS0816		(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
...LCN-EtFOSAA_00004	09/30/21	WELLINGTON,	Lot NetFOSAA0916		(Purchased Reagent)	10 mL	N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
...LCN-MeFOSAA_00005	10/12/21	WELLINGTON,	Lot NMeFOSAA0916		(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
...LCPFBA_00007	05/27/21	Wellington Laboratories,	Lot PFBA0516		(Purchased Reagent)		Perfluorobutyric acid	50 ug/mL
...LCPFBS_00008	03/15/21	Wellington Laboratories,	Lot LFPBS0316		(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
...LCPFDA_00008	05/29/22	Wellington Laboratories,	Lot PFDA0517		(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
...LCPFDoA_00008	05/29/22	Wellington Laboratories,	Lot PFDoA0517		(Purchased Reagent)		Perfluorododecanoic acid	50 ug/mL
...LCPFDSA_00002	05/24/21	Wellington Laboratories,	Lot LPFDS0516		(Purchased Reagent)		Perfluorodecane Sulfonic acid	48.2 ug/mL
...LCPFHpA_00008	12/02/21	Wellington Laboratories,	Lot PFHpA1216		(Purchased Reagent)		Perfluoroheptanoic acid (PFHpA)	50 ug/mL
...LCPFHpsA_00003	09/01/22	Wellington Laboratories,	Lot LPFHps0817		(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
...LCPFHxA_00007	12/22/20	Wellington Laboratories,	Lot PFHxA1215		(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
...LCPFHxS-br_00004	07/03/20	Wellington Laboratories,	Lot brPFHxSK0615		(Purchased Reagent)		Perfluorohexanesulfonic acid (PFHxS)	45.5 ug/mL
...LCPFNA_00009	07/20/22	Wellington Laboratories,	Lot PFNA0717		(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
...LCPFNS_00003	09/27/22	Wellington Laboratories,	Lot LPFNS0917		(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
...LCPFOA_00009	09/27/22	Wellington Laboratories,	Lot PFOA0917		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
...LCPFOS-br_00004	10/14/20	Wellington Laboratories,	Lot brPFOSK1015		(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
...LCPFOSA_00010	09/30/21	Wellington Laboratories,	Lot FOSA0916I		(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
...LCPFPeA_00007	05/31/21	Wellington Laboratories,	Lot FPFeA0516		(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL
...LCPFPes_00003	01/11/22	Wellington Laboratories,	Lot LPFPes0117		(Purchased Reagent)		Perfluoropentanesulfonic acid	46.9 ug/mL
...LCPFTeDA_00006	12/09/20	Wellington Laboratories,	Lot PFTeDA1215		(Purchased Reagent)		Perfluorotetradecanoic acid	50 ug/mL
...LCPFTrDA_00006	02/12/21	Wellington Laboratories,	Lot PFTTrDA0216		(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
...LCPFUDa_00007	10/18/21	Wellington Laboratories,	Lot PFUDa1016		(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL
LCPFC_LL3_00005	11/18/18	06/05/18	MeOH/H2O, Lot 090285	200 mL	LCMPFC_ALL_SU_00075	10 mL	d3-NMeFOSAA	2.5 ng/mL
							d5-NEtFOSAA	2.5 ng/mL
							M2-6:2FtS	2.375 ng/mL
							M2-8:2FtS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFOA	2.5 ng/mL
							13C2-PFTeDA	2.5 ng/mL
							13C4-PFHpA	2.5 ng/mL
							13C5-PFPeA	2.5 ng/mL
							13C8 FOSA	2.5 ng/mL
							13C4 PFBA	2.5 ng/mL
							13C3-PFBS	2.325 ng/mL
							13C2 PFDA	2.5 ng/mL
							13C2 PFDoA	2.5 ng/mL
							13C2 PFHxA	2.5 ng/mL
							18O2 PFHxS	2.365 ng/mL
							13C5 PFNA	2.5 ng/mL
							13C4 PFOA	2.5 ng/mL
							13C4 PFOS	2.39 ng/mL
							13C2 PFUnA	2.5 ng/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.LCMFFC_ALL_SU_00075	12/05/18	06/05/18	Methanol, Lot Baker 141039	200 mL	LCPF CSP_00148	100 uL	Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	0.2335 ng/mL
							Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.237 ng/mL
							Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	0.2395 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	0.25 ng/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	0.25 ng/mL
							Perfluorobutyric acid	0.25 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	0.221 ng/mL
							Perfluorodecanoic acid	0.25 ng/mL
							Perfluorododecanoic acid	0.25 ng/mL
							Perfluorodecane Sulfonic acid	0.241 ng/mL
							Perfluoroheptanoic acid (PFHpA)	0.25 ng/mL
							Perfluoroheptanesulfonic acid	0.238 ng/mL
							Perfluorohexanoic acid	0.25 ng/mL
							Perfluorohexanesulfonic acid (PFHxS)	0.2275 ng/mL
							Perfluorononanoic acid (PFNA)	0.25 ng/mL
							Perfluorooctanoic acid (PFOA)	0.25025 ng/mL
							Perfluorononanesulfonic acid	0.24 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	0.232 ng/mL
							Perfluorooctane Sulfonamide	0.25 ng/mL
							Perfluoropentanoic acid	0.25 ng/mL
							Perfluoropentanesulfonic acid	0.2345 ng/mL
							Perfluorotetradecanoic acid	0.25 ng/mL
							Perfluorotridecanoic acid	0.25 ng/mL
							Perfluoroundecanoic acid	0.25 ng/mL
							d3-NMeFOSAA	0.05 ug/mL
					LCd3-NMeFOSAA_00008	200 uL	d5-NETFOSAA	0.05 ug/mL
							LCM2-6:FTS_00008	0.0475 ug/mL
							LCM2-8:2FTS_00010	0.0479 ug/mL
							LCM2PFHxDA_00016	0.05 ug/mL
							LCM2PFOA_00008	0.05 ug/mL
							LCM2PFTeDA_00014	0.05 ug/mL
							LCM4PFHPA_00014	0.05 ug/mL
							LCM5PFPEA_00015	0.05 ug/mL
							LCM8FOSA_00019	0.05 ug/mL
							LCMPFBA_00015	0.05 ug/mL
							LCMPFBS_00008	0.0465 ug/mL

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCd3-NMeFOSAA_00008	11/08/22		WELLINGTON, Lot d3NMeFOSAA1117		LCMPFDA_00020	200 uL	13C2 PFDA	0.05 ug/mL
..LCd5-NEtFOSAA_00008	11/08/22		WELLINGTON, Lot d5NEtFOSAA1117		LCMPFDoA_00015	200 uL	13C2 PFDoA	0.05 ug/mL
..LCM2-6:FTS_00008	02/16/23		WELLINGTON, Lot M262FTS0218		LCMPFHxA_00022	200 uL	13C2 PFHxA	0.05 ug/mL
..LCM2-8:2FTS_00010	01/24/23		WELLINGTON, Lot M282FTS0118		LCMPFHxS_00015	200 uL	1802 PFHxS	0.0473 ug/mL
..LCM2PFHxDA_00016	02/12/21		Wellington Laboratories, Lot M2PFHxDA0717		LCMPFNA_00015	200 uL	13C5 PFNA	0.05 ug/mL
..LCM2PFTeDA_00014	07/13/22		Wellington Laboratories, Lot M2PFTeDA1117		LCMPFOA_00019	200 uL	13C4 PFOA	0.05 ug/mL
..LCM4PFHxA_00014	05/03/22		Wellington Laboratories, Lot M4PFHxA0517		LCMPFOS_00027	200 uL	13C4 PFOS	0.0478 ug/mL
..LCM5PFPeA_00015	07/20/22		Wellington Laboratories, Lot M5PFPeA0717		LCMPFUDa_00017	200 uL	13C2 PFUnA	0.05 ug/mL
..LCM8FOSA_00019	10/11/22		Wellington Laboratories, Lot M8FOSA1017I		(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
..LCMPFBA_00015	02/16/23		Wellington Laboratories, Lot MPFBA0218		(Purchased Reagent)		d5-NEtFOSAA	50 ug/mL
..LCMPFBS_00008	02/15/23		Wellington Laboratories, Lot M3PFBS0218		(Purchased Reagent)		M2-6:2FTS	47.5 ug/mL
..LCMPFDA_00020	02/16/23		Wellington Laboratories, Lot MPFDoA0218		(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
..LCMPFDoA_00015	02/16/23		Wellington Laboratories, Lot MPFDoA0218		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCMPFHxA_00022	10/27/22		Wellington Laboratories, Lot MPFHxA1017		(Purchased Reagent)		13C2-PFTeDA	50 ug/mL
..LCMPFHxS_00015	03/22/23		Wellington Laboratories, Lot MPFHxS0318		(Purchased Reagent)		13C4-PFHxA	50 ug/mL
..LCMPFNA_00015	12/14/22		Wellington Laboratories, Lot MPFNA1217		(Purchased Reagent)		13C5-PFPeA	50 ug/mL
..LCMPFOA_00019	05/04/23		Wellington Laboratories, Lot MPFOA0418		(Purchased Reagent)		13C8 FOSA	50 ug/mL
..LCMPFOS_00027	02/15/23		Wellington Laboratories, Lot MPFOS0218		(Purchased Reagent)		13C4 PFBA	50 ug/mL
..LCMPFUDa_00017	11/22/21		Wellington Laboratories, Lot MPFUDa1116		(Purchased Reagent)		13C3-PFBS	46.5 ug/mL
.LCPFCS_P_00148	11/18/18	05/17/18	Methanol, Lot 090285	10 mL	LC4:2FTS_00005	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.467 ug/mL
					LC6:2FTS_00007	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.474 ug/mL
					LC8:2FTS_00007	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.479 ug/mL
					LCbr-NEtFOSAA_00001	100 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
					LCbr-NMeFOSAA_00001	100 uL	N-methyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
					LCPFBA_00008	100 uL	Perfluorobutyric acid	0.5 ug/mL
					LCPFBS_00009	100 uL	Perfluorobutanesulfonic acid (PFBS)	0.442 ug/mL
					LCPFDA_00008	100 uL	Perfluorodecanoic acid	0.5 ug/mL
					LCPFDoA_00008	100 uL	Perfluorododecanoic acid	0.5 ug/mL
					LCPFDS_00008	100 uL	Perfluorodecane Sulfonic acid	0.482 ug/mL
					LCPFHxA_00011	100 uL	Perfluoroheptanoic acid (PFHxA)	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LC4:2FTS_00005			WELLINGTON, Lot 42FTS1216		LCPFHpSA_00003	100 uL	Perfluoroheptanesulfonic acid	0.476 ug/mL
					LCPFHxA_00010	100 uL	Perfluorohexanoic acid	0.5 ug/mL
					LCPFHxS-br_00006	100 uL	Perfluorohexanesulfonic acid (PFHxS)	0.455 ug/mL
					LCPFNA_00010	100 uL	Perfluorononanoic acid (PFNA)	0.5 ug/mL
							Perfluorooctanoic acid (PFOA)	0.5005 ug/mL
					LCPFNS_00003	100 uL	Perfluorononanesulfonic acid	0.48 ug/mL
					LCPFOA_00011	100 uL	Perfluorooctanoic acid (PFOA)	0.5005 ug/mL
					LCPFOS-br_00007	100 uL	Perfluorooctanesulfonic acid (PFOS)	0.464 ug/mL
					LCPFOSA_00013	100 uL	Perfluorooctane Sulfonamide	0.5 ug/mL
..LC6:2FTS_00007			WELLINGTON, Lot 62FTS0417		LCPFPeA_00008	100 uL	Perfluoropentanoic acid	0.5 ug/mL
					LCPFPeS_00003	100 uL	Perfluoropentanesulfonic acid	0.469 ug/mL
					LCPFTeDA_00008	100 uL	Perfluorotetradecanoic acid	0.5 ug/mL
					LCPFTrDA_00008	100 uL	Perfluorotridecanoic acid	0.5 ug/mL
					LCPFUDA_00008	100 uL	Perfluoroundecanoic acid	0.5 ug/mL
					(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
					(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
					(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL
					(Purchased Reagent)		N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
					(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
..LCbr-NEtFOSAA_00001			WELLINGTON, Lot brNEtFOSAA0118		(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	50 ug/mL
					(Purchased Reagent)		Perfluorobutyric acid	44.2 ug/mL
					(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorododecanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorodecane Sulfonic acid	48.2 ug/mL
					(Purchased Reagent)		Perfluoroheptanoic acid (PFHpA)	50 ug/mL
					(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
					(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorohexanesulfonic acid (PFHxS)	45.5 ug/mL
					(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
..LCPFNS_00003			WELLINGTON Laboratories, Lot LPFNS0917		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.05 ug/mL
					(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
					(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
					(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
					(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL
					(Purchased Reagent)			
					(Purchased Reagent)			
					(Purchased Reagent)			
					(Purchased Reagent)			

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCFPeS_00003	01/11/22	Wellington Laboratories, Lot LPFPeS0117		200 mL	(Purchased Reagent)	10 mL	Perfluoropentanesulfonic acid	46.9 ug/mL
..LCPFTeDA_00008	09/30/21	Wellington Laboratories, Lot PFTeDA0916			(Purchased Reagent)		Perfluorotetradecanoic acid	50 ug/mL
..LCFPTrDA_00008	05/02/22	Wellington Laboratories, Lot PFTTrDA0517			(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
..LCPFUDA_00008	10/18/21	Wellington Laboratories, Lot PFUDA1016			(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL
LCPFC_LL4_00004	08/20/18	02/22/18 MeOH/H2O, Lot 090285		200 mL	LCMPFC_ALL_SU_00041		d3-NMeFOSAA	2.5 ng/mL
							d5-NEtFOSAA	2.5 ng/mL
							M2-6:2FTS	2.375 ng/mL
							M2-8:2FTS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFOA	2.5 ng/mL
							13C2-PFTeDA	2.5 ng/mL
							13C4-PFHpA	2.5 ng/mL
							13C5-PFPeA	2.5 ng/mL
							13C8 FOSA	2.5 ng/mL
							13C4 PFBA	2.5 ng/mL
							13C3-PFBS	2.325 ng/mL
							13C2 PFDA	2.5 ng/mL
							13C2 PFDoA	2.5 ng/mL
							13C2 PFHxA	2.5 ng/mL
							18O2 PFHxS	2.365 ng/mL
							13C5 PFNA	2.5 ng/mL
							13C4 PFOA	2.5 ng/mL
							13C4 PFOS	2.39 ng/mL
							13C2 PFUnA	2.5 ng/mL
					LCPFCS_P_00132	200 uL	Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	0.934 ng/mL
							Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.948 ng/mL
							Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	0.958 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	1 ng/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	1 ng/mL
							Perfluorobutyric acid	1 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	0.884 ng/mL
							Perfluorodecanoic acid	1 ng/mL
							Perfluorododecanoic acid	1 ng/mL
							Perfluorodecane Sulfonic acid	0.964 ng/mL
							Perfluoroheptanoic acid (PFHpA)	1 ng/mL
							Perfluoroheptanesulfonic acid	0.952 ng/mL
							Perfluorohexanoic acid	1 ng/mL
							Perfluorohexanesulfonic acid (PFHxS)	0.91 ng/mL

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCMPFC_ALL_SU_00041	08/20/18	02/20/18	Methanol, Lot Baker 141039	200 mL	LCd3-NMeFOSAA_00006	200 uL	d3-NMeFOSAA	0.05 ug/mL
					LCd5-NETFOSAA_00006	200 uL	d5-NETFOSAA	0.05 ug/mL
					LCM2-6:FTS_00006	200 uL	M2-6:2FTS	0.0475 ug/mL
					LCM2-8:2FTS_00008	200 uL	M2-8:2FTS	0.0479 ug/mL
					LCM2PFHxDA_00013	200 uL	13C2-PFHxDA	0.05 ug/mL
					LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
					LCM2PFTeDA_00012	200 uL	13C2-PFTeDA	0.05 ug/mL
					LCM4PFHPA_00012	200 uL	13C4-PFHxPA	0.05 ug/mL
					LCM5PFPEA_00013	200 uL	13C5-PFPEA	0.05 ug/mL
					LCM8FOSA_00016	200 uL	13C8 FOSA	0.05 ug/mL
					LCMPFBA_00013	200 uL	13C4 PFBA	0.05 ug/mL
					LCMPFBS_00006	200 uL	13C3-PFBS	0.0465 ug/mL
					LCMPFDA_00018	200 uL	13C2 PFDA	0.05 ug/mL
					LCMPFDoA_00013	200 uL	13C2 PFDoA	0.05 ug/mL
					LCMPFHxA_00019	200 uL	13C2 PFHxA	0.05 ug/mL
					LCMPFHxS_00013	200 uL	1802 PFHxS	0.0473 ug/mL
					LCMPFNA_00013	200 uL	13C5 PFNA	0.05 ug/mL
					LCMPFOA_00017	200 uL	13C4 PFOA	0.05 ug/mL
					LCMPFOS_00025	200 uL	13C4 PFOS	0.0478 ug/mL
					LCMPFuD_A_00014	200 uL	13C2 PFUnA	0.05 ug/mL
..LCd3-NMeFOSAA_00006	05/19/22		WELLINGTON, Lot d3NMeFOSAA0517		(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
..LCd5-NETFOSAA_00006	11/08/22		WELLINGTON, Lot d5NETFOSAA1117		(Purchased Reagent)		d5-NETFOSAA	50 ug/mL
..LCM2-6:FTS_00006	02/17/22		WELLINGTON, Lot M262FTS0217		(Purchased Reagent)		M2-6:2FTS	47.5 ug/mL
..LCM2-8:2FTS_00008	07/05/22		WELLINGTON, Lot M282FTS0717		(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
..LCM2PFHxDA_00013	07/13/22		Wellington Laboratories, Lot M2PFHxDA0717		(Purchased Reagent)		13C2-PFHxDA	50 ug/mL
..LCM2PFOA_00008	02/12/21		Wellington Laboratories, Lot M2PFOA0216		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCM2PFTeDA_00012	11/30/22		Wellington Laboratories, Lot M2PFTeDA1117		(Purchased Reagent)		13C2-PFTeDA	50 ug/mL
..LCM4PFHPA_00012	05/03/22		Wellington Laboratories, Lot M4PFHPA0517		(Purchased Reagent)		13C4-PFHxPA	50 ug/mL
..LCM5PFPEA_00013	07/20/22		Wellington Laboratories, Lot M5PFPEA0717		(Purchased Reagent)		13C5-PFPEA	50 ug/mL
..LCM8FOSA_00016	10/11/22		Wellington Laboratories, Lot M8FOSA1017I		(Purchased Reagent)		13C8 FOSA	50 ug/mL
..LCMPFBA_00013	04/12/22		Wellington Laboratories, Lot MPFBA0417		(Purchased Reagent)		13C4 PFBA	50 ug/mL
..LCMPFBS_00006	05/24/22		Wellington Laboratories, Lot M3PFBS0815		(Purchased Reagent)		13C3-PFBS	46.5 ug/mL
..LCMPFDA_00018	07/13/22		Wellington Laboratories, Lot MPFDA0717		(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFDoA_00013	05/23/22		Wellington Laboratories, Lot MPFDoA0517		(Purchased Reagent)		13C2 PFDoA	50 ug/mL
..LCMPFHxA_00019	10/27/22		Wellington Laboratories, Lot MPFHxA1017		(Purchased Reagent)		13C2 PFHxA	50 ug/mL
..LCMPFHxS_00013	02/17/22		Wellington Laboratories, Lot MPFHxS0217		(Purchased Reagent)		1802 PFHxS	47.3 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCMPFNA_00013	09/30/21	Wellington Laboratories, Lot MPFNA0916			(Purchased Reagent)	200 uL	13C5 PFNA	50 ug/mL
..LCMPFOA_00017	10/17/22	Wellington Laboratories, Lot MPFOA1017			(Purchased Reagent)		13C4 PFOA	50 ug/mL
..LCMPFOS_00025	10/17/22	Wellington Laboratories, Lot MPFOS1017			(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
..LCMPFUDA_00014	11/22/21	Wellington Laboratories, Lot MPFUDA1116			(Purchased Reagent)		13C2 PFUNA	50 ug/mL
..LCPCSP_00132	08/20/18	02/20/18 Methanol, Lot 090285		10000 uL	LC4:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.934 ug/mL
					LC6:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.948 ug/mL
					LC8:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.958 ug/mL
					LCN-EtFOSAA_00004	200 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	1 ug/mL
					LCN-MeFOSAA_00005	200 uL	N-methyl perfluorooctane sulfonamidoacetic acid	1 ug/mL
					LCPFBA_00007	200 uL	Perfluorobutyric acid	1 ug/mL
					LCPFBS_00008	200 uL	Perfluorobutanesulfonic acid (PFBS)	0.884 ug/mL
					LCPFDA_00008	200 uL	Perfluorodecanoic acid	1 ug/mL
					LCPFDoA_00008	200 uL	Perfluorododecanoic acid	1 ug/mL
					LCPFDSA_00002	200 uL	Perfluorodecane Sulfonic acid	0.964 ug/mL
					LCPFHpA_00008	200 uL	Perfluoroheptanoic acid (PFHpA)	1 ug/mL
					LCPFHpSA_00003	200 uL	Perfluoroheptanesulfonic acid	0.952 ug/mL
					LCPFHxA_00007	200 uL	Perfluorohexanoic acid	1 ug/mL
					LCPFHxS-br_00004	200 uL	Perfluorohexanesulfonic acid (PFHxS)	0.91 ug/mL
					LCPFNA_00009	200 uL	Perfluorononanoic acid (PFNA)	1 ug/mL
					LCPFNS_00003	200 uL	Perfluorononanesulfonic acid	0.96 ug/mL
					LCPFOA_00009	200 uL	Perfluorooctanoic acid (PFOA)	1 ug/mL
					LCPFOS-br_00004	200 uL	Perfluorooctanesulfonic acid (PFOS)	0.928 ug/mL
					LCPFOSA_00010	200 uL	Perfluorooctane Sulfonamide	1 ug/mL
					LCPFPeA_00007	200 uL	Perfluoropentanoic acid	1 ug/mL
					LCPFPeS_00003	200 uL	Perfluoropentanesulfonic acid	0.938 ug/mL
					LCPFTeDA_00006	200 uL	Perfluorotetradecanoic acid	1 ug/mL
					LCPFTrDA_00006	200 uL	Perfluorotridecanoic acid	1 ug/mL
					LCPFUDA_00007	200 uL	Perfluoroundecanoic acid	1 ug/mL
..LC4:2FTS_00003	12/12/21	WELLINGTON, Lot 42FTS1216			(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
..LC6:2FTS_00003	06/25/21	WELLINGTON, Lot 62FTS0616			(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
..LC8:2FTS_00003	08/22/21	WELLINGTON, Lot 82FTS0816			(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCN-EtFOSAA_00004	09/30/21		WELLINGTON, Lot NetFOSAA0916		(Purchased Reagent)		N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
..LCN-MeFOSAA_00005	10/12/21		WELLINGTON, Lot NMeFOSAA0916		(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
..LCPFBA_00007	05/27/21		Wellington Laboratories, Lot PFBA0516		(Purchased Reagent)		Perfluorobutyric acid	50 ug/mL
..LCPFBS_00008	03/15/21		Wellington Laboratories, Lot LFPBS0316		(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
..LCPFDA_00008	05/29/22		Wellington Laboratories, Lot PFDA0517		(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
..LCPFDoA_00008	05/29/22		Wellington Laboratories, Lot PFDoA0517		(Purchased Reagent)		Perfluorododecanoic acid	50 ug/mL
..LCPFDSA_00002	05/24/21		Wellington Laboratories, Lot LPFDS0516		(Purchased Reagent)		Perfluorodecane Sulfonic acid	48.2 ug/mL
..LCPFHpA_00008	12/02/21		Wellington Laboratories, Lot PFHpA1216		(Purchased Reagent)		Perfluoroheptanoic acid (PFHpA)	50 ug/mL
..LCPFHpsA_00003	09/01/22		Wellington Laboratories, Lot LPFHps0817		(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
..LCPFHxA_00007	12/22/20		Wellington Laboratories, Lot PFHxA1215		(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
..LCPFHxS-br_00004	07/03/20		Wellington Laboratories, Lot brPFHxSK0615		(Purchased Reagent)		Perfluorohexanesulfonic acid (PFHxS)	45.5 ug/mL
..LCPFNA_00009	07/20/22		Wellington Laboratories, Lot PFNA0717		(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
..LCPFNS_00003	09/27/22		Wellington Laboratories, Lot LPFNS0917		(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
..LCPFOA_00009	09/27/22		Wellington Laboratories, Lot PFOA0917		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
..LCPFOS-br_00004	10/14/20		Wellington Laboratories, Lot brPFOSK1015		(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
..LCPFOSA_00010	09/30/21		Wellington Laboratories, Lot FOSA0916I		(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
..LCPFPeA_00007	05/31/21		Wellington Laboratories, Lot FPFeA0516		(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL
..LCPFPeS_00003	01/11/22		Wellington Laboratories, Lot LPFPeS0117		(Purchased Reagent)		Perfluoropentanesulfonic acid	46.9 ug/mL
..LCPFTeDA_00006	12/09/20		Wellington Laboratories, Lot PFTeDA1215		(Purchased Reagent)		Perfluorotetradecanoic acid	50 ug/mL
..LCPFTrDA_00006	02/12/21		Wellington Laboratories, Lot PFTTrDA0216		(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
..LCPFUDA_00007	10/18/21		Wellington Laboratories, Lot PFUDA1016		(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL
LCPFC_LL4_00005	11/18/18	06/05/18	MeOH/H2O, Lot 090285	200 mL	LCMPFC_ALL_SU_00075	10 mL	d3-NMeFOSAA	2.5 ng/mL
							d5-NEtFOSAA	2.5 ng/mL
							M2-6:2FTS	2.375 ng/mL
							M2-8:2FTS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFOA	2.5 ng/mL
							13C2-PFTeDA	2.5 ng/mL
							13C4-PFHpA	2.5 ng/mL
							13C5-PFPeA	2.5 ng/mL
							13C8 FOSA	2.5 ng/mL
							13C4 PFBA	2.5 ng/mL
							13C3-PFBS	2.325 ng/mL
							13C2 PFDA	2.5 ng/mL
							13C2 PFDoA	2.5 ng/mL
							13C2 PFHxA	2.5 ng/mL
							1802 PFHxS	2.365 ng/mL
							13C5 PFNA	2.5 ng/mL
							13C4 PFOA	2.5 ng/mL
							13C4 PFOS	2.39 ng/mL
							13C2 PFUnA	2.5 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.LCMFFC_ALL_SU_00075	12/05/18	06/05/18	Methanol, Lot Baker 141039	200 mL	LCFFCSP_00148	400 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.934 ng/mL
							Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.948 ng/mL
							Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.958 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	1 ng/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	1 ng/mL
							Perfluorobutyric acid	1 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	0.884 ng/mL
							Perfluorodecanoic acid	1 ng/mL
							Perfluorododecanoic acid	1 ng/mL
							Perfluorodecane Sulfonic acid	0.964 ng/mL
							Perfluoroheptanoic acid (PFHpA)	1 ng/mL
							Perfluoroheptanesulfonic acid	0.952 ng/mL
							Perfluorohexanoic acid	1 ng/mL
							Perfluorohexanesulfonic acid (PFHxS)	0.91 ng/mL
							Perfluorononanoic acid (PFNA)	1 ng/mL
							Perfluorooctanoic acid (PFOA)	1.001 ng/mL
							Perfluorononanesulfonic acid	0.96 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	0.928 ng/mL
							Perfluorooctane Sulfonamide	1 ng/mL
							Perfluoropentanoic acid	1 ng/mL
							Perfluoropentanesulfonic acid	0.938 ng/mL
							Perfluorotetradecanoic acid	1 ng/mL
							Perfluorotridecanoic acid	1 ng/mL
							Perfluoroundecanoic acid	1 ng/mL
							d3-NMeFOSAA	0.05 ug/mL
					LCd3-NMeFOSAA_00008	200 uL	d5-NMeFOSAA	0.05 ug/mL
					LCd5-NMeFOSAA_00008	200 uL	d5-NMeFOSAA	0.05 ug/mL
					LCM2-6:FTS_00008	200 uL	M2-6:2FTS	0.0475 ug/mL
					LCM2-8:2FTS_00010	200 uL	M2-8:2FTS	0.0479 ug/mL
					LCM2PFHxDA_00016	200 uL	13C2-PFHxDA	0.05 ug/mL
					LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
					LCM2PFTeDA_00014	200 uL	13C2-PFTeDA	0.05 ug/mL
					LCM4PFHPA_00014	200 uL	13C4-PFHPA	0.05 ug/mL
					LCM5PFPEA_00015	200 uL	13C5-PFPeA	0.05 ug/mL
					LCM8FOSA_00019	200 uL	13C8 FOSA	0.05 ug/mL
					LCMPFBA_00015	200 uL	13C4 PFBA	0.05 ug/mL
					LCMPFBS_00008	200 uL	13C3-PFBS	0.0465 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCd3-NMeFOSAA_00008	11/08/22		WELLINGTON, Lot d3NMeFOSAA1117		LCMPFDA_00020	200 uL	13C2 PFDA	0.05 ug/mL
..LCd5-NEtFOSAA_00008	11/08/22		WELLINGTON, Lot d5NEtFOSAA1117		LCMPFDoA_00015	200 uL	13C2 PFDoA	0.05 ug/mL
..LCM2-6:FTS_00008	02/16/23		WELLINGTON, Lot M262FTS0218		LCMPFHxA_00022	200 uL	13C2 PFHxA	0.05 ug/mL
..LCM2-8:2FTS_00010	01/24/23		WELLINGTON, Lot M282FTS0118		LCMPFHxS_00015	200 uL	1802 PFHxS	0.0473 ug/mL
..LCM2PFHxDA_00016	02/12/21		Wellington Laboratories, Lot M2PFHxDA0717		LCMPFNA_00015	200 uL	13C5 PFNA	0.05 ug/mL
..LCM2PFTeDA_00014	07/13/22		Wellington Laboratories, Lot M2PFTeDA1117		LCMPFOA_00019	200 uL	13C4 PFOA	0.05 ug/mL
..LCM4PFHxA_00014	05/03/22		Wellington Laboratories, Lot M4PFHxA0517		LCMPFOS_00027	200 uL	13C4 PFOS	0.0478 ug/mL
..LCM5PFPeA_00015	07/20/22		Wellington Laboratories, Lot M5PFPeA0717		LCMPFUDa_00017	200 uL	13C2 PFUnA	0.05 ug/mL
..LCM8FOSA_00019	10/11/22		Wellington Laboratories, Lot M8FOSA1017I		(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
..LCMPFBA_00015	02/16/23		Wellington Laboratories, Lot MPFBA0218		(Purchased Reagent)		d5-NEtFOSAA	50 ug/mL
..LCMPFBS_00008	02/15/23		Wellington Laboratories, Lot M3PFBS0218		(Purchased Reagent)		M2-6:2FTS	47.5 ug/mL
..LCMPFDA_00020	02/16/23		Wellington Laboratories, Lot MPFDA0218		(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
..LCMPFDoA_00015	02/16/23		Wellington Laboratories, Lot MPFDoA0218		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCMPFHxA_00022	10/27/22		Wellington Laboratories, Lot MPFHxA1017		(Purchased Reagent)		13C2-PFTeDA	50 ug/mL
..LCMPFHxS_00015	03/22/23		Wellington Laboratories, Lot MPFHxS0318		(Purchased Reagent)		13C4-PFHxA	50 ug/mL
..LCMPFNA_00015	12/14/22		Wellington Laboratories, Lot MPFNA1217		(Purchased Reagent)		13C5-PFNA	50 ug/mL
..LCMPFOA_00019	05/04/23		Wellington Laboratories, Lot MPFOA0418		(Purchased Reagent)		13C4 PFOA	50 ug/mL
..LCMPFOS_00027	02/15/23		Wellington Laboratories, Lot MPFOS0218		(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
..LCMPFUDa_00017	11/22/21		Wellington Laboratories, Lot MPFUDa1116		(Purchased Reagent)		13C2 PFUnA	50 ug/mL
..LCPFCS_00148	11/18/18	05/17/18	Methanol, Lot 090285	10 mL	LC4:2FTS_00005	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.467 ug/mL
					LC6:2FTS_00007	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.474 ug/mL
					LC8:2FTS_00007	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.479 ug/mL
					LCbr-NEtFOSAA_00001	100 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
					LCbr-NMeFOSAA_00001	100 uL	N-methyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
					LCPFBA_00008	100 uL	Perfluorobutyric acid	0.5 ug/mL
					LCPFBS_00009	100 uL	Perfluorobutanesulfonic acid (PFBS)	0.442 ug/mL
					LCPFDA_00008	100 uL	Perfluorodecanoic acid	0.5 ug/mL
					LCPFDoA_00008	100 uL	Perfluorododecanoic acid	0.5 ug/mL
					LCPFDS_00008	100 uL	Perfluorodecane Sulfonic acid	0.482 ug/mL
					LCPFHxA_00011	100 uL	Perfluoroheptanoic acid (PFHxA)	0.5 ug/mL

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

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SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					LCPFHpsA_00003	100 uL	Perfluoroheptanesulfonic acid	0.476 ug/mL
					LCPFHxA_00010	100 uL	Perfluorohexanoic acid	0.5 ug/mL
					LCPFHxS-br_00006	100 uL	Perfluorohexanesulfonic acid (PFHxS)	0.455 ug/mL
					LCPFNA_00010	100 uL	Perfluorononanoic acid (PFNA)	0.5 ug/mL
					LCPFNS_00003	100 uL	Perfluorooctanoic acid (PFOA)	0.5005 ug/mL
					LCPFOA_00011	100 uL	Perfluorononanesulfonic acid	0.48 ug/mL
					LCPFOS-br_00007	100 uL	Perfluorooctanoic acid (PFOA) (PFOS)	0.5005 ug/mL
					LCPFOSA_00013	100 uL	Perfluorooctane Sulfonamide	0.5 ug/mL
					LCPPFeA_00008	100 uL	Perfluoropentanoic acid	0.5 ug/mL
					LCPPFeS_00003	100 uL	Perfluoropentanesulfonic acid	0.469 ug/mL
					LCPTTeDA_00008	100 uL	Perfluorotetradecanoic acid	0.5 ug/mL
					LCPTTrDA_00008	100 uL	Perfluorotridecanoic acid	0.5 ug/mL
					LCPFUDa_00008	100 uL	Perfluoroundecanoic acid	0.5 ug/mL
					(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
					(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
					(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL
					(Purchased Reagent)		N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
					(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
					(Purchased Reagent)		Perfluorobutyric acid	50 ug/mL
					(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
					(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorododecanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorodecane Sulfonic acid	48.2 ug/mL
					(Purchased Reagent)		Perfluoroheptanoic acid (PFHpA)	50 ug/mL
					(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
					(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorohexanesulfonic acid (PFHxS)	45.5 ug/mL
					(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.05 ug/mL
					(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
					(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
					(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
					(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCFPeS_00003	01/11/22	Wellington Laboratories, Lot LPFPeS0117		200 mL	(Purchased Reagent)	10 mL	Perfluoropentanesulfonic acid	46.9 ug/mL
..LCPFTeDA_00008	09/30/21	Wellington Laboratories, Lot PFTeDA0916			(Purchased Reagent)		Perfluorotetradecanoic acid	50 ug/mL
..LCFPTrDA_00008	05/02/22	Wellington Laboratories, Lot PFTTrDA0517			(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
..LCPFUDA_00008	10/18/21	Wellington Laboratories, Lot PFUDA1016			(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL
LCPFC_LL5_00004	08/20/18	02/22/18 MeOH/H2O, Lot 090285		200 mL	LCMPFC_ALL_SU_00041	10 mL	d3-NMeFOSAA	2.5 ng/mL
							d5-NEtFOSAA	2.5 ng/mL
							M2-6:2FTS	2.375 ng/mL
							M2-8:2FTS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFOA	2.5 ng/mL
							13C2-PFTeDA	2.5 ng/mL
							13C4-PFHpA	2.5 ng/mL
							13C5-PFPeA	2.5 ng/mL
							13C8 FOSA	2.5 ng/mL
							13C4 PFBA	2.5 ng/mL
							13C3-PFBS	2.325 ng/mL
							13C2 PFDA	2.5 ng/mL
							13C2 PFDoA	2.5 ng/mL
							13C2 PFHxA	2.5 ng/mL
							18O2 PFHxS	2.365 ng/mL
							13C5 PFNA	2.5 ng/mL
							13C4 PFOA	2.5 ng/mL
							13C4 PFOS	2.39 ng/mL
							13C2 PFUnA	2.5 ng/mL
					LCPFCS_P_00132	500 uL	Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	2.335 ng/mL
							Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	2.37 ng/mL
							Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	2.395 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	2.5 ng/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	2.5 ng/mL
							Perfluorobutyric acid	2.5 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	2.21 ng/mL
							Perfluorodecanoic acid	2.5 ng/mL
							Perfluorododecanoic acid	2.5 ng/mL
							Perfluorodecane Sulfonic acid	2.41 ng/mL
							Perfluoroheptanoic acid (PFHpA)	2.5 ng/mL
							Perfluoroheptanesulfonic acid	2.38 ng/mL
							Perfluorohexanoic acid	2.5 ng/mL
							Perfluorohexanesulfonic acid (PFHxS)	2.275 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCMPFC_ALL_SU_00041	08/20/18	02/20/18	Methanol, Lot Baker 141039	200 mL	LCd3-NMeFOSAA_00006	200 uL		
					LCd5-NETFOSAA_00006	200 uL	d5-NETFOSAA	0.05 ug/mL
					LCM2-6:FTS_00006	200 uL	M2-6:2FTS	0.0475 ug/mL
					LCM2-8:2FTS_00008	200 uL	M2-8:2FTS	0.0479 ug/mL
					LCM2PFHxDA_00013	200 uL	13C2-PFHxDA	0.05 ug/mL
					LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
					LCM2PFTeDA_00012	200 uL	13C2-PFTeDA	0.05 ug/mL
					LCM4PFHPA_00012	200 uL	13C4-PFHxPA	0.05 ug/mL
					LCM5PFPEA_00013	200 uL	13C5-PFPeA	0.05 ug/mL
					LCM8FOSA_00016	200 uL	13C8 FOSA	0.05 ug/mL
					LCMPFBA_00013	200 uL	13C4 PFBA	0.05 ug/mL
					LCMPFBS_00006	200 uL	13C3-PFBS	0.0465 ug/mL
					LCMPFDA_00018	200 uL	13C2 PFDA	0.05 ug/mL
					LCMPFDoA_00013	200 uL	13C2 PFDoA	0.05 ug/mL
					LCMPFHxA_00019	200 uL	13C2 PFHxA	0.05 ug/mL
					LCMPFHxS_00013	200 uL	1802 PFHxS	0.0473 ug/mL
					LCMPFNA_00013	200 uL	13C5 PFNA	0.05 ug/mL
					LCMPFOA_00017	200 uL	13C4 PFOA	0.05 ug/mL
					LCMPFOS_00025	200 uL	13C4 PFOS	0.0478 ug/mL
					LCMPFuD_A_00014	200 uL	13C2 PFUnA	0.05 ug/mL
..LCd3-NMeFOSAA_00006	05/19/22		WELLINGTON, Lot d3NMeFOSAA0517		(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
..LCd5-NETFOSAA_00006	11/08/22		WELLINGTON, Lot d5NETFOSAA1117		(Purchased Reagent)		d5-NETFOSAA	50 ug/mL
..LCM2-6:FTS_00006	02/17/22		WELLINGTON, Lot M262FTS0217		(Purchased Reagent)		M2-6:2FTS	47.5 ug/mL
..LCM2-8:2FTS_00008	07/05/22		WELLINGTON, Lot M282FTS0717		(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
..LCM2PFHxDA_00013	07/13/22		Wellington Laboratories, Lot M2PFHxDA0717		(Purchased Reagent)		13C2-PFHxDA	50 ug/mL
..LCM2PFOA_00008	02/12/21		Wellington Laboratories, Lot M2PFOA0216		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCM2PFTeDA_00012	11/30/22		Wellington Laboratories, Lot M2PFTeDA1117		(Purchased Reagent)		13C2-PFTeDA	50 ug/mL
..LCM4PFHPA_00012	05/03/22		Wellington Laboratories, Lot M4PFHPA0517		(Purchased Reagent)		13C4-PFHxPA	50 ug/mL
..LCM5PFPEA_00013	07/20/22		Wellington Laboratories, Lot M5PFPeA0717		(Purchased Reagent)		13C5-PFPeA	50 ug/mL
..LCM8FOSA_00016	10/11/22		Wellington Laboratories, Lot M8FOSA1017I		(Purchased Reagent)		13C8 FOSA	50 ug/mL
..LCMPFBA_00013	04/12/22		Wellington Laboratories, Lot MPFBA0417		(Purchased Reagent)		13C4 PFBA	50 ug/mL
..LCMPFBS_00006	05/24/22		Wellington Laboratories, Lot M3PFBS0815		(Purchased Reagent)		13C3-PFBS	46.5 ug/mL
..LCMPFDA_00018	07/13/22		Wellington Laboratories, Lot MPFDA0717		(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFDoA_00013	05/23/22		Wellington Laboratories, Lot MPFDoA0517		(Purchased Reagent)		13C2 PFDoA	50 ug/mL
..LCMPFHxA_00019	10/27/22		Wellington Laboratories, Lot MPFHxA1017		(Purchased Reagent)		13C2 PFHxA	50 ug/mL
..LCMPFHxS_00013	02/17/22		Wellington Laboratories, Lot MPFHxS0217		(Purchased Reagent)		1802 PFHxS	47.3 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCMPFNA_00013	09/30/21	Wellington Laboratories, Lot MPFNA0916			(Purchased Reagent)	200 uL	13C5 PFNA	50 ug/mL
..LCMPFOA_00017	10/17/22	Wellington Laboratories, Lot MPFOA1017			(Purchased Reagent)		13C4 PFOA	50 ug/mL
..LCMPFOS_00025	10/17/22	Wellington Laboratories, Lot MPFOS1017			(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
..LCMPFUDA_00014	11/22/21	Wellington Laboratories, Lot MPFUDA1116			(Purchased Reagent)		13C2 PFUNA	50 ug/mL
..LCPCSP_00132	08/20/18	02/20/18 Methanol, Lot 090285		10000 uL	LC4:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.934 ug/mL
					LC6:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.948 ug/mL
					LC8:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.958 ug/mL
					LCN-EtFOSAA_00004	200 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	1 ug/mL
					LCN-MeFOSAA_00005	200 uL	N-methyl perfluorooctane sulfonamidoacetic acid	1 ug/mL
					LCPFBA_00007	200 uL	Perfluorobutyric acid	1 ug/mL
					LCPFBS_00008	200 uL	Perfluorobutanesulfonic acid (PFBS)	0.884 ug/mL
					LCPFDA_00008	200 uL	Perfluorodecanoic acid	1 ug/mL
					LCPFDoA_00008	200 uL	Perfluorododecanoic acid	1 ug/mL
					LCPFDSA_00002	200 uL	Perfluorodecane Sulfonic acid	0.964 ug/mL
					LCPFHpA_00008	200 uL	Perfluoroheptanoic acid (PFHpA)	1 ug/mL
					LCPFHpSA_00003	200 uL	Perfluoroheptanesulfonic acid	0.952 ug/mL
					LCPFHxA_00007	200 uL	Perfluorohexanoic acid	1 ug/mL
					LCPFHxS-br_00004	200 uL	Perfluorohexanesulfonic acid (PFHxS)	0.91 ug/mL
					LCPFNA_00009	200 uL	Perfluorononanoic acid (PFNA)	1 ug/mL
					LCPFNS_00003	200 uL	Perfluorononanesulfonic acid	0.96 ug/mL
					LCPFOA_00009	200 uL	Perfluorooctanoic acid (PFOA)	1 ug/mL
					LCPFOS-br_00004	200 uL	Perfluorooctanesulfonic acid (PFOS)	0.928 ug/mL
					LCPFOSA_00010	200 uL	Perfluorooctane Sulfonamide	1 ug/mL
					LCPFPeA_00007	200 uL	Perfluoropentanoic acid	1 ug/mL
					LCPFPeS_00003	200 uL	Perfluoropentanesulfonic acid	0.938 ug/mL
					LCPFTeDA_00006	200 uL	Perfluorotetradecanoic acid	1 ug/mL
					LCPFTrDA_00006	200 uL	Perfluorotridecanoic acid	1 ug/mL
					LCPFUDA_00007	200 uL	Perfluoroundecanoic acid	1 ug/mL
..LC4:2FTS_00003	12/12/21	WELLINGTON, Lot 42FTS1216			(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
..LC6:2FTS_00003	06/25/21	WELLINGTON, Lot 62FTS0616			(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
..LC8:2FTS_00003	08/22/21	WELLINGTON, Lot 82FTS0816			(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCN-EtFOSAA_00004	09/30/21		WELLINGTON, Lot NetFOSAA0916		(Purchased Reagent)		N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
..LCN-MeFOSAA_00005	10/12/21		WELLINGTON, Lot NMeFOSAA0916		(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
..LCPFBA 00007	05/27/21	Wellington Laboratories, Lot PFBA0516			(Purchased Reagent)		Perfluorobutyric acid	50 ug/mL
..LCPFBS_00008	03/15/21	Wellington Laboratories, Lot LFPBS0316			(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
..LCPFDA 00008	05/29/22	Wellington Laboratories, Lot PFDA0517			(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
..LCPFDoA 00008	05/29/22	Wellington Laboratories, Lot PFDoA0517			(Purchased Reagent)		Perfluorododecanoic acid	50 ug/mL
..LCPFDSA 00002	05/24/21	Wellington Laboratories, Lot LPFDS0516			(Purchased Reagent)		Perfluorodecane Sulfonic acid	48.2 ug/mL
..LCPFHpA_00008	12/02/21	Wellington Laboratories, Lot PFHpA1216			(Purchased Reagent)		Perfluoroheptanoic acid (PFHpA)	50 ug/mL
..LCPFHpsA 00003	09/01/22	Wellington Laboratories, Lot LFPHps0817			(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
..LCPFHxA 00007	12/22/20	Wellington Laboratories, Lot PFHxA1215			(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
..LCPFHxS-br_00004	07/03/20	Wellington Laboratories, Lot brPFHxSK0615			(Purchased Reagent)		Perfluorohexanesulfonic acid (PFHxS)	45.5 ug/mL
..LCPFNA 00009	07/20/22	Wellington Laboratories, Lot PFNA0717			(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
..LCPFNS 00003	09/27/22	Wellington Laboratories, Lot LPFNS0917			(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
..LCPFOA 00009	09/27/22	Wellington Laboratories, Lot PFOA0917			(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
..LCPFOS-br_00004	10/14/20	Wellington Laboratories, Lot brPFOSK1015			(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
..LCPFOSA 00010	09/30/21	Wellington Laboratories, Lot FOSA0916I			(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
..LCPFPeA 00007	05/31/21	Wellington Laboratories, Lot FPFeA0516			(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL
..LCPFPeS 00003	01/11/22	Wellington Laboratories, Lot LPFPes0117			(Purchased Reagent)		Perfluoropentanesulfonic acid	46.9 ug/mL
..LCPFTeDA 00006	12/09/20	Wellington Laboratories, Lot PFTeDA1215			(Purchased Reagent)		Perfluorotetradecanoic acid	50 ug/mL
..LCPFTrDA 00006	02/12/21	Wellington Laboratories, Lot PFTTrDA0216			(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
..LCPFUDA 00007	10/18/21	Wellington Laboratories, Lot PFUDa1016			(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL
LCPFC_LL5_00005	11/18/18	06/05/18	MeOH/H2O, Lot 090285	200 mL	LCMPFC_ALL_SU_00075	10 mL	d3-NMeFOSAA	2.5 ng/mL
							d5-NEtFOSAA	2.5 ng/mL
							M2-6:2FTS	2.375 ng/mL
							M2-8:2FTS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFOA	2.5 ng/mL
							13C2-PFTeDA	2.5 ng/mL
							13C4-PFHpA	2.5 ng/mL
							13C5-PFPeA	2.5 ng/mL
							13C8 FOSA	2.5 ng/mL
							13C4 PFBA	2.5 ng/mL
							13C3-PFBS	2.325 ng/mL
							13C2 PFDA	2.5 ng/mL
							13C2 PFDoA	2.5 ng/mL
							13C2 PFHxA	2.5 ng/mL
							1802 PFHxS	2.365 ng/mL
							13C5 PFNA	2.5 ng/mL
							13C4 PFOA	2.5 ng/mL
							13C4 PFOS	2.39 ng/mL
							13C2 PFUnA	2.5 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.LCMFFC_ALL_SU_00075	12/05/18	06/05/18	Methanol, Lot Baker 141039	200 mL	LCPF CSP_00148	1000 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	2.335 ng/mL
							Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	2.37 ng/mL
							Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	2.395 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	2.5 ng/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	2.5 ng/mL
							Perfluorobutyric acid	2.5 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	2.21 ng/mL
							Perfluorodecanoic acid	2.5 ng/mL
							Perfluorododecanoic acid	2.5 ng/mL
							Perfluorodecane Sulfonic acid	2.41 ng/mL
							Perfluoroheptanoic acid (PFHpA)	2.5 ng/mL
							Perfluoroheptanesulfonic acid	2.38 ng/mL
							Perfluorohexanoic acid	2.5 ng/mL
							Perfluorohexanesulfonic acid (PFHxS)	2.275 ng/mL
							Perfluorononanoic acid (PFNA)	2.5 ng/mL
							Perfluorooctanoic acid (PFOA)	2.5025 ng/mL
							Perfluorononanesulfonic acid	2.4 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	2.32 ng/mL
							Perfluorooctane Sulfonamide	2.5 ng/mL
							Perfluoropentanoic acid	2.5 ng/mL
							Perfluoropentanesulfonic acid	2.345 ng/mL
							Perfluorotetradecanoic acid	2.5 ng/mL
							Perfluorotridecanoic acid	2.5 ng/mL
							Perfluoroundecanoic acid	2.5 ng/mL
							d3-NMeFOSAA	0.05 ug/mL
							Lcd5-NMeFOSAA_00008	
							Lcd5-NETFOSAA_00008	0.05 ug/mL
							LCM2-6:FTS_00008	0.0475 ug/mL
							LCM2-8:2FTS_00010	0.0479 ug/mL
							LCM2PFHxDA_00016	0.05 ug/mL
							LCM2PFOA_00008	0.05 ug/mL
							LCM2PFTeDA_00014	0.05 ug/mL
							LCM4PFHPA_00014	0.05 ug/mL
							LCM5PFPEA_00015	0.05 ug/mL
							LCM8FOSA_00019	0.05 ug/mL
							LCMPFBA_00015	0.05 ug/mL
							LCMPFBS_00008	0.0465 ug/mL

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCd3-NMeFOSAA_00008	11/08/22		WELLINGTON, Lot d3NMeFOSAA1117		LCMPFDA_00020	200 uL	13C2 PFDA	0.05 ug/mL
..LCd5-NEtFOSAA_00008	11/08/22		WELLINGTON, Lot d5NEtFOSAA1117		LCMPFDoA_00015	200 uL	13C2 PFDoA	0.05 ug/mL
..LCM2-6:FTS_00008	02/16/23		WELLINGTON, Lot M262FTS0218		LCMPFHxA_00022	200 uL	13C2 PFHxA	0.05 ug/mL
..LCM2-8:2FTS_00010	01/24/23		WELLINGTON, Lot M282FTS0118		LCMPFHxS_00015	200 uL	1802 PFHxS	0.0473 ug/mL
..LCM2PFHxDA_00016	02/12/21		Wellington Laboratories, Lot M2PFHxDA0717		LCMPFNA_00015	200 uL	13C5 PFNA	0.05 ug/mL
..LCM2PFTeDA_00014	07/13/22		Wellington Laboratories, Lot M2PFTeDA1117		LCMPFOA_00019	200 uL	13C4 PFOA	0.05 ug/mL
..LCM4PFHxA_00014	05/03/22		Wellington Laboratories, Lot M4PFHxA0517		LCMPFOS_00027	200 uL	13C4 PFOS	0.0478 ug/mL
..LCM5PFPeA_00015	07/20/22		Wellington Laboratories, Lot M5PFPeA0717		LCMPFUDa_00017	200 uL	13C2 PFUnA	0.05 ug/mL
..LCM8FOSA_00019	10/11/22		Wellington Laboratories, Lot M8FOSA1017I		(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
..LCMPFBA_00015	02/16/23		Wellington Laboratories, Lot MPFBA0218		(Purchased Reagent)		d5-NEtFOSAA	50 ug/mL
..LCMPFBS_00008	02/15/23		Wellington Laboratories, Lot M3PFBS0218		(Purchased Reagent)		M2-6:2FTS	47.5 ug/mL
..LCMPFDA_00020	02/16/23		Wellington Laboratories, Lot MPFDoA0218		(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
..LCMPFDoA_00015	02/16/23		Wellington Laboratories, Lot MPFDoA0218		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCMPFHxA_00022	10/27/22		Wellington Laboratories, Lot MPFHxA1017		(Purchased Reagent)		13C2-PFTeDA	50 ug/mL
..LCMPFHxS_00015	03/22/23		Wellington Laboratories, Lot MPFHxS0318		(Purchased Reagent)		13C4-PFHxA	50 ug/mL
..LCMPFNA_00015	12/14/22		Wellington Laboratories, Lot MPFNA1217		(Purchased Reagent)		13C5-PFNA	50 ug/mL
..LCMPFOA_00019	05/04/23		Wellington Laboratories, Lot MPFOA0418		(Purchased Reagent)		13C4 PFOA	50 ug/mL
..LCMPFOS_00027	02/15/23		Wellington Laboratories, Lot MPFOS0218		(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
..LCMPFUDa_00017	11/22/21		Wellington Laboratories, Lot MPFUDa1116		(Purchased Reagent)		13C2 PFUnA	50 ug/mL
.LCPPCSP_00148	11/18/18	05/17/18	Methanol, Lot 090285	10 mL	LC4:2FTS_00005	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.467 ug/mL
					LC6:2FTS_00007	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.474 ug/mL
					LC8:2FTS_00007	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.479 ug/mL
					LCbr-NEtFOSAA_00001	100 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
					LCbr-NMeFOSAA_00001	100 uL	N-methyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
					LCPFBA_00008	100 uL	Perfluorobutyric acid	0.5 ug/mL
					LCPFBS_00009	100 uL	Perfluorobutanesulfonic acid (PFBS)	0.442 ug/mL
					LCPFDA_00008	100 uL	Perfluorodecanoic acid	0.5 ug/mL
					LCPFDoA_00008	100 uL	Perfluorododecanoic acid	0.5 ug/mL
					LCPFDS_00008	100 uL	Perfluorodecane Sulfonic acid	0.482 ug/mL
					LCPFHxA_00011	100 uL	Perfluoroheptanoic acid (PFHxA)	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LC4:2FTS_00005			WELLINGTON, Lot 42FTS1216		LCPFHpSA_00003	100 uL	Perfluoroheptanesulfonic acid	0.476 ug/mL
					LCPFHxA_00010	100 uL	Perfluorohexanoic acid	0.5 ug/mL
					LCPFHxS-br_00006	100 uL	Perfluorohexanesulfonic acid (PFHxS)	0.455 ug/mL
					LCPFNA_00010	100 uL	Perfluorononanoic acid (PFNA)	0.5 ug/mL
							Perfluorooctanoic acid (PFOA)	0.5005 ug/mL
					LCPFNS_00003	100 uL	Perfluorononanesulfonic acid	0.48 ug/mL
					LCPFOA_00011	100 uL	Perfluorooctanoic acid (PFOA)	0.5005 ug/mL
					LCPFOS-br_00007	100 uL	Perfluorooctanesulfonic acid (PFOS)	0.464 ug/mL
					LCPFOSA_00013	100 uL	Perfluorooctane Sulfonamide	0.5 ug/mL
..LC6:2FTS_00007			WELLINGTON, Lot 62FTS0417		LCPFPeA_00008	100 uL	Perfluoropentanoic acid	0.5 ug/mL
					LCPFPeS_00003	100 uL	Perfluoropentanesulfonic acid	0.469 ug/mL
					LCPFTeDA_00008	100 uL	Perfluorotetradecanoic acid	0.5 ug/mL
					LCPFTrDA_00008	100 uL	Perfluorotridecanoic acid	0.5 ug/mL
					LCPFUDA_00008	100 uL	Perfluoroundecanoic acid	0.5 ug/mL
					(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
					(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
					(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL
					(Purchased Reagent)		N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
					(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
..LCbr-NEtFOSAA_00001			WELLINGTON, Lot brNEtFOSAA0118		(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	50 ug/mL
					(Purchased Reagent)		Perfluorobutyric acid	44.2 ug/mL
					(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorododecanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorodecane Sulfonic acid	48.2 ug/mL
					(Purchased Reagent)		Perfluoroheptanoic acid (PFHpA)	50 ug/mL
					(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
					(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorohexanesulfonic acid (PFHxS)	45.5 ug/mL
					(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
..LCPFNS_00003			WELLINGTON Laboratories, Lot LPFNS0917		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.05 ug/mL
					(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
					(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
					(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
					(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL
					(Purchased Reagent)			
					(Purchased Reagent)			
					(Purchased Reagent)			
					(Purchased Reagent)			
..LCPFHxA_00010			WELLINGTON Laboratories, Lot brPFHxA0917		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.5 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.5 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.5 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.5 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.5 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.5 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.5 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.5 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.5 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCFPeS_00003	01/11/22	Wellington Laboratories, Lot LPFPeS0117			(Purchased Reagent)		Perfluoropentanesulfonic acid	46.9 ug/mL
..LCPFTeDA_00008	09/30/21	Wellington Laboratories, Lot PFTeDA0916			(Purchased Reagent)		Perfluorotetradecanoic acid	50 ug/mL
..LCFPTrDA_00008	05/02/22	Wellington Laboratories, Lot PFTTrDA0517			(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
..LCPFUDA_00008	10/18/21	Wellington Laboratories, Lot PFUDA1016			(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL
LCPFC_LL6_00005	08/20/18	02/22/18 MeOH/H2O, Lot 090285		200 mL	LCMPFC_ALL_SU_00041	10 mL	d3-NMeFOSAA	2.5 ng/mL
							d5-NEtFOSAA	2.5 ng/mL
							M2-6:2FTS	2.375 ng/mL
							M2-8:2FTS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFOA	2.5 ng/mL
							13C2-PFTeDA	2.5 ng/mL
							13C4-PFHpA	2.5 ng/mL
							13C5-PFPeA	2.5 ng/mL
							13C8 FOSA	2.5 ng/mL
							13C4 PFBA	2.5 ng/mL
							13C3-PFBS	2.325 ng/mL
							13C2 PFDA	2.5 ng/mL
							13C2 PFDoA	2.5 ng/mL
							13C2 PFHxA	2.5 ng/mL
							18O2 PFHxS	2.365 ng/mL
							13C5 PFNA	2.5 ng/mL
							13C4 PFOA	2.5 ng/mL
							13C4 PFOS	2.39 ng/mL
							13C2 PFUnA	2.5 ng/mL
					LCPFCS_P_00132	1 mL	Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	4.67 ng/mL
							Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	4.74 ng/mL
							Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	4.79 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	5 ng/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	5 ng/mL
							Perfluorobutyric acid	5 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	4.42 ng/mL
							Perfluorodecanoic acid	5 ng/mL
							Perfluorododecanoic acid	5 ng/mL
							Perfluorodecane Sulfonic acid	4.82 ng/mL
							Perfluoroheptanoic acid (PFHpA)	5 ng/mL
							Perfluoroheptanesulfonic acid	4.76 ng/mL
							Perfluorohexanoic acid	5 ng/mL
							Perfluorohexanesulfonic acid (PFHxS)	4.55 ng/mL



## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCMPFC_ALL_SU_00041	08/20/18	02/20/18	Methanol, Lot Baker 141039	200 mL	LCd3-NMeFOSAA_00006	200 uL		
					LCd5-NETFOSAA_00006	200 uL	d5-NETFOSAA	0.05 ug/mL
					LCM2-6:FTS_00006	200 uL	M2-6:2FTS	0.0475 ug/mL
					LCM2-8:2FTS_00008	200 uL	M2-8:2FTS	0.0479 ug/mL
					LCM2PFHxDA_00013	200 uL	13C2-PFHxDA	0.05 ug/mL
					LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
					LCM2PFTeDA_00012	200 uL	13C2-PFTeDA	0.05 ug/mL
					LCM4PFHPA_00012	200 uL	13C4-PFHxPA	0.05 ug/mL
					LCM5PFPEA_00013	200 uL	13C5-PFPeA	0.05 ug/mL
					LCM8FOSA_00016	200 uL	13C8 FOSA	0.05 ug/mL
					LCMPFBA_00013	200 uL	13C4 PFBA	0.05 ug/mL
					LCMPFBS_00006	200 uL	13C3-PFBS	0.0465 ug/mL
					LCMPFDA_00018	200 uL	13C2 PFDA	0.05 ug/mL
					LCMPFDoA_00013	200 uL	13C2 PFDoA	0.05 ug/mL
					LCMPFHxA_00019	200 uL	13C2 PFHxA	0.05 ug/mL
					LCMPFHxS_00013	200 uL	1802 PFHxS	0.0473 ug/mL
					LCMPFNA_00013	200 uL	13C5 PFNA	0.05 ug/mL
					LCMPFOA_00017	200 uL	13C4 PFOA	0.05 ug/mL
					LCMPFOS_00025	200 uL	13C4 PFOS	0.0478 ug/mL
					LCMPFuD_A_00014	200 uL	13C2 PFUnA	0.05 ug/mL
..LCd3-NMeFOSAA_00006	05/19/22		WELLINGTON, Lot d3NMeFOSAA0517		(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
..LCd5-NETFOSAA_00006	11/08/22		WELLINGTON, Lot d5NETFOSAA1117		(Purchased Reagent)		d5-NETFOSAA	50 ug/mL
..LCM2-6:FTS_00006	02/17/22		WELLINGTON, Lot M262FTS0217		(Purchased Reagent)		M2-6:2FTS	47.5 ug/mL
..LCM2-8:2FTS_00008	07/05/22		WELLINGTON, Lot M282FTS0717		(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
..LCM2PFHxDA_00013	07/13/22		Wellington Laboratories, Lot M2PFHxDA0717		(Purchased Reagent)		13C2-PFHxDA	50 ug/mL
..LCM2PFOA_00008	02/12/21		Wellington Laboratories, Lot M2PFOA0216		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCM2PFTeDA_00012	11/30/22		Wellington Laboratories, Lot M2PFTeDA1117		(Purchased Reagent)		13C2-PFTeDA	50 ug/mL
..LCM4PFHPA_00012	05/03/22		Wellington Laboratories, Lot M4PFHPA0517		(Purchased Reagent)		13C4-PFHxPA	50 ug/mL
..LCM5PFPEA_00013	07/20/22		Wellington Laboratories, Lot M5PFPeA0717		(Purchased Reagent)		13C5-PFPeA	50 ug/mL
..LCM8FOSA_00016	10/11/22		Wellington Laboratories, Lot M8FOSA1017I		(Purchased Reagent)		13C8 FOSA	50 ug/mL
..LCMPFBA_00013	04/12/22		Wellington Laboratories, Lot MPFBA0417		(Purchased Reagent)		13C4 PFBA	50 ug/mL
..LCMPFBS_00006	05/24/22		Wellington Laboratories, Lot M3PFBS0815		(Purchased Reagent)		13C3-PFBS	46.5 ug/mL
..LCMPFDA_00018	07/13/22		Wellington Laboratories, Lot MPFDA0717		(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFDoA_00013	05/23/22		Wellington Laboratories, Lot MPFDoA0517		(Purchased Reagent)		13C2 PFDoA	50 ug/mL
..LCMPFHxA_00019	10/27/22		Wellington Laboratories, Lot MPFHxA1017		(Purchased Reagent)		13C2 PFHxA	50 ug/mL
..LCMPFHxS_00013	02/17/22		Wellington Laboratories, Lot MPFHxS0217		(Purchased Reagent)		1802 PFHxS	47.3 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCMPFNA_00013	09/30/21	Wellington Laboratories, Lot MPFNA0916			(Purchased Reagent)	200 uL	13C5 PFNA	50 ug/mL
..LCMPFOA_00017	10/17/22	Wellington Laboratories, Lot MPFOA1017			(Purchased Reagent)		13C4 PFOA	50 ug/mL
..LCMPFOS_00025	10/17/22	Wellington Laboratories, Lot MPFOS1017			(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
..LCMPFUDA_00014	11/22/21	Wellington Laboratories, Lot MPFUDA1116			(Purchased Reagent)		13C2 PFUNA	50 ug/mL
..LCPCSP_00132	08/20/18	02/20/18 Methanol, Lot 090285		10000 uL	LC4:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.934 ug/mL
					LC6:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.948 ug/mL
					LC8:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.958 ug/mL
					LCN-EtFOSAA_00004	200 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	1 ug/mL
					LCN-MeFOSAA_00005	200 uL	N-methyl perfluorooctane sulfonamidoacetic acid	1 ug/mL
					LCPFBA_00007	200 uL	Perfluorobutyric acid	1 ug/mL
					LCPFBS_00008	200 uL	Perfluorobutanesulfonic acid (PFBS)	0.884 ug/mL
					LCPFDA_00008	200 uL	Perfluorodecanoic acid	1 ug/mL
					LCPFDoA_00008	200 uL	Perfluorododecanoic acid	1 ug/mL
					LCPFDSA_00002	200 uL	Perfluorodecane Sulfonic acid	0.964 ug/mL
					LCPFHpA_00008	200 uL	Perfluoroheptanoic acid (PFHpA)	1 ug/mL
					LCPFHpSA_00003	200 uL	Perfluoroheptanesulfonic acid	0.952 ug/mL
					LCPFHxA_00007	200 uL	Perfluorohexanoic acid	1 ug/mL
					LCPFHxS-br_00004	200 uL	Perfluorohexanesulfonic acid (PFHxS)	0.91 ug/mL
					LCPFNA_00009	200 uL	Perfluorononanoic acid (PFNA)	1 ug/mL
					LCPFNS_00003	200 uL	Perfluorononanesulfonic acid	0.96 ug/mL
					LCPFOA_00009	200 uL	Perfluorooctanoic acid (PFOA)	1 ug/mL
					LCPFOS-br_00004	200 uL	Perfluorooctanesulfonic acid (PFOS)	0.928 ug/mL
					LCPFOSA_00010	200 uL	Perfluorooctane Sulfonamide	1 ug/mL
					LCPFPeA_00007	200 uL	Perfluoropentanoic acid	1 ug/mL
					LCPFPeS_00003	200 uL	Perfluoropentanesulfonic acid	0.938 ug/mL
					LCPFTeDA_00006	200 uL	Perfluorotetradecanoic acid	1 ug/mL
					LCPFTrDA_00006	200 uL	Perfluorotridecanoic acid	1 ug/mL
					LCPFUDA_00007	200 uL	Perfluoroundecanoic acid	1 ug/mL
..LC4:2FTS_00003	12/12/21	WELLINGTON, Lot 42FTS1216			(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
..LC6:2FTS_00003	06/25/21	WELLINGTON, Lot 62FTS0616			(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
..LC8:2FTS_00003	08/22/21	WELLINGTON, Lot 82FTS0816			(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCN-EtFOSAA_00004	09/30/21	WELLINGTON,	Lot NetFOSAA0916		(Purchased Reagent)		N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
..LCN-MeFOSAA_00005	10/12/21	WELLINGTON,	Lot NMeFOSAA0916		(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
..LCPFBA_00007	05/27/21	Wellington Laboratories,	Lot PFBA0516		(Purchased Reagent)		Perfluorobutyric acid	50 ug/mL
..LCPFBS_00008	03/15/21	Wellington Laboratories,	Lot LFPBS0316		(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
..LCPFDA_00008	05/29/22	Wellington Laboratories,	Lot PFDA0517		(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
..LCPFDoA_00008	05/29/22	Wellington Laboratories,	Lot PFDoA0517		(Purchased Reagent)		Perfluorododecanoic acid	50 ug/mL
..LCPFDSA_00002	05/24/21	Wellington Laboratories,	Lot LPFDS0516		(Purchased Reagent)		Perfluorodecane Sulfonic acid	48.2 ug/mL
..LCPFHpA_00008	12/02/21	Wellington Laboratories,	Lot PFHpA1216		(Purchased Reagent)		Perfluoroheptanoic acid (PFHpA)	50 ug/mL
..LCPFHpsA_00003	09/01/22	Wellington Laboratories,	Lot LPFHps0817		(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
..LCPFHxA_00007	12/22/20	Wellington Laboratories,	Lot PFHxA1215		(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
..LCPFHxS-br_00004	07/03/20	Wellington Laboratories,	Lot brPFHxSK0615		(Purchased Reagent)		Perfluorohexanesulfonic acid (PFHxS)	45.5 ug/mL
..LCPFNA_00009	07/20/22	Wellington Laboratories,	Lot PFNA0717		(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
..LCPFNS_00003	09/27/22	Wellington Laboratories,	Lot LPFNS0917		(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
..LCPFOA_00009	09/27/22	Wellington Laboratories,	Lot PFOA0917		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
..LCPFOS-br_00004	10/14/20	Wellington Laboratories,	Lot brPFOSK1015		(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
..LCPFOSA_00010	09/30/21	Wellington Laboratories,	Lot FOSA0916I		(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
..LCPFPeA_00007	05/31/21	Wellington Laboratories,	Lot FPFeA0516		(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL
..LCPFPeS_00003	01/11/22	Wellington Laboratories,	Lot LPFPeS0117		(Purchased Reagent)		Perfluoropentanesulfonic acid	46.9 ug/mL
..LCPFTeDA_00006	12/09/20	Wellington Laboratories,	Lot PFTeDA1215		(Purchased Reagent)		Perfluorotetradecanoic acid	50 ug/mL
..LCPFTrDA_00006	02/12/21	Wellington Laboratories,	Lot PFTTrDA0216		(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
..LCPFUDA_00007	10/18/21	Wellington Laboratories,	Lot PFUDa1016		(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL
LCPFC_LL6_00006	11/18/18	06/05/18	MeOH/H2O, Lot 090285	200 mL	LCMPFC_ALL_SU_00075	10 mL	d3-NMeFOSAA	2.5 ng/mL
							d5-NEtFOSAA	2.5 ng/mL
							M2-6:2FTS	2.375 ng/mL
							M2-8:2FTS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFOA	2.5 ng/mL
							13C2-PFTeDA	2.5 ng/mL
							13C4-PFHpA	2.5 ng/mL
							13C5-PFPeA	2.5 ng/mL
							13C8 FOSA	2.5 ng/mL
							13C4 PFBA	2.5 ng/mL
							13C3-PFBS	2.325 ng/mL
							13C2 PFDA	2.5 ng/mL
							13C2 PFDoA	2.5 ng/mL
							13C2 PFHxA	2.5 ng/mL
							1802 PFHxS	2.365 ng/mL
							13C5 PFNA	2.5 ng/mL
							13C4 PFOA	2.5 ng/mL
							13C4 PFOS	2.39 ng/mL
							13C2 PFUnA	2.5 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.LCMFFC_ALL_SU_00075	12/05/18	06/05/18	Methanol, Lot Baker 141039	200 mL	LCPF CSP_00148	2 mL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	4.67 ng/mL
							Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	4.74 ng/mL
							Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	4.79 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	5 ng/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	5 ng/mL
							Perfluorobutyric acid	5 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	4.42 ng/mL
							Perfluorodecanoic acid	5 ng/mL
							Perfluorododecanoic acid	5 ng/mL
							Perfluorodecane Sulfonic acid	4.82 ng/mL
							Perfluoroheptanoic acid (PFHpA)	5 ng/mL
							Perfluoroheptanesulfonic acid	4.76 ng/mL
							Perfluorohexanoic acid	5 ng/mL
							Perfluorohexanesulfonic acid (PFHxS)	4.55 ng/mL
							Perfluorononanoic acid (PFNA)	5 ng/mL
							Perfluorooctanoic acid (PFOA)	5.005 ng/mL
							Perfluorononanesulfonic acid	4.8 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	4.64 ng/mL
							Perfluorooctane Sulfonamide	5 ng/mL
							Perfluoropentanoic acid	5 ng/mL
							Perfluoropentanesulfonic acid	4.69 ng/mL
							Perfluorotetradecanoic acid	5 ng/mL
							Perfluorotridecanoic acid	5 ng/mL
							Perfluoroundecanoic acid	5 ng/mL
					LCd3-NMeFOSAA_00008	200 uL	d3-NMeFOSAA	0.05 ug/mL
					LCd5-NETFOSAA_00008	200 uL	d5-NETFOSAA	0.05 ug/mL
					LCM2-6:FTS_00008	200 uL	M2-6:2FTS	0.0475 ug/mL
					LCM2-8:2FTS_00010	200 uL	M2-8:2FTS	0.0479 ug/mL
					LCM2PFHxDA_00016	200 uL	13C2-PFHxDA	0.05 ug/mL
					LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
					LCM2PFTeDA_00014	200 uL	13C2-PFTeDA	0.05 ug/mL
					LCM4PFHPA_00014	200 uL	13C4-PFHPa	0.05 ug/mL
					LCM5PFPEA_00015	200 uL	13C5-PFPeA	0.05 ug/mL
					LCM8FOSA_00019	200 uL	13C8 FOSA	0.05 ug/mL
					LCMPFBA_00015	200 uL	13C4 PFBA	0.05 ug/mL
					LCMPFBS_00008	200 uL	13C3-PFBS	0.0465 ug/mL

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCd3-NMeFOSAA_00008	11/08/22		WELLINGTON, Lot d3NMeFOSAA1117		LCMPFDA_00020	200 uL	13C2 PFDA	0.05 ug/mL
..LCd5-NEtFOSAA_00008	11/08/22		WELLINGTON, Lot d5NEtFOSAA1117		LCMPFDoA_00015	200 uL	13C2 PFDoA	0.05 ug/mL
..LCM2-6:FTS_00008	02/16/23		WELLINGTON, Lot M262FTS0218		LCMPFHxA_00022	200 uL	13C2 PFHxA	0.05 ug/mL
..LCM2-8:2FTS_00010	01/24/23		WELLINGTON, Lot M282FTS0118		LCMPFHxS_00015	200 uL	1802 PFHxS	0.0473 ug/mL
..LCM2PFHxDA_00016	02/12/21		Wellington Laboratories, Lot M2PFHxDA0717		LCMPFNA_00015	200 uL	13C5 PFNA	0.05 ug/mL
..LCM2PFTeDA_00014	07/13/22		Wellington Laboratories, Lot M2PFTeDA1117		LCMPFOA_00019	200 uL	13C4 PFOA	0.05 ug/mL
..LCM4PFHxA_00014	05/03/22		Wellington Laboratories, Lot M4PFHxA0517		LCMPFOS_00027	200 uL	13C4 PFOS	0.0478 ug/mL
..LCM5PFPeA_00015	07/20/22		Wellington Laboratories, Lot M5PFPeA0717		LCMPFUDa_00017	200 uL	13C2 PFUnA	0.05 ug/mL
..LCM8FOSA_00019	10/11/22		Wellington Laboratories, Lot M8FOSA1017I		(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
..LCMPFBA_00015	02/16/23		Wellington Laboratories, Lot MPFBA0218		(Purchased Reagent)		d5-NEtFOSAA	50 ug/mL
..LCMPFBS_00008	02/15/23		Wellington Laboratories, Lot M3PFBS0218		(Purchased Reagent)		M2-6:2FTS	47.5 ug/mL
..LCMPFDA_00020	02/16/23		Wellington Laboratories, Lot MPFDoA0218		(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
..LCMPFDoA_00015	02/16/23		Wellington Laboratories, Lot MPFDoA0218		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCMPFHxA_00022	10/27/22		Wellington Laboratories, Lot MPFHxA1017		(Purchased Reagent)		13C2-PFTeDA	50 ug/mL
..LCMPFHxS_00015	03/22/23		Wellington Laboratories, Lot MPFHxS0318		(Purchased Reagent)		13C4-PFHxA	50 ug/mL
..LCMPFNA_00015	12/14/22		Wellington Laboratories, Lot MPFNA1217		(Purchased Reagent)		13C5-PFNA	50 ug/mL
..LCMPFOA_00019	05/04/23		Wellington Laboratories, Lot MPFOA0418		(Purchased Reagent)		13C4 PFOA	50 ug/mL
..LCMPFOS_00027	02/15/23		Wellington Laboratories, Lot MPFOS0218		(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
..LCMPFUDa_00017	11/22/21		Wellington Laboratories, Lot MPFUDa1116		(Purchased Reagent)		13C2 PFUnA	50 ug/mL
.LCPPCSP_00148	11/18/18	05/17/18	Methanol, Lot 090285	10 mL	LC4:2FTS_00005	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.467 ug/mL
					LC6:2FTS_00007	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.474 ug/mL
					LC8:2FTS_00007	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.479 ug/mL
					LCbr-NEtFOSAA_00001	100 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
					LCbr-NMeFOSAA_00001	100 uL	N-methyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
					LCPFBA_00008	100 uL	Perfluorobutyric acid	0.5 ug/mL
					LCPFBS_00009	100 uL	Perfluorobutanesulfonic acid (PFBS)	0.442 ug/mL
					LCPFDA_00008	100 uL	Perfluorodecanoic acid	0.5 ug/mL
					LCPFDoA_00008	100 uL	Perfluorododecanoic acid	0.5 ug/mL
					LCPFDS_00008	100 uL	Perfluorodecane Sulfonic acid	0.482 ug/mL
					LCPFHxA_00011	100 uL	Perfluoroheptanoic acid (PFHxA)	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LC4:2FTS_00005			WELLINGTON, Lot 42FTS1216		LCPFHpSA_00003	100 uL	Perfluoroheptanesulfonic acid	0.476 ug/mL
					LCPFHxA_00010	100 uL	Perfluorohexanoic acid	0.5 ug/mL
					LCPFHxS-br_00006	100 uL	Perfluorohexanesulfonic acid (PFHxS)	0.455 ug/mL
					LCPFNA_00010	100 uL	Perfluorononanoic acid (PFNA)	0.5 ug/mL
							Perfluorooctanoic acid (PFOA)	0.5005 ug/mL
					LCPFNS_00003	100 uL	Perfluorononanesulfonic acid	0.48 ug/mL
					LCPFOA_00011	100 uL	Perfluorooctanoic acid (PFOA)	0.5005 ug/mL
					LCPFOS-br_00007	100 uL	Perfluorooctanesulfonic acid (PFOS)	0.464 ug/mL
					LCPFOSA_00013	100 uL	Perfluorooctane Sulfonamide	0.5 ug/mL
..LC6:2FTS_00007			WELLINGTON, Lot 62FTS0417		LCPFPeA_00008	100 uL	Perfluoropentanoic acid	0.5 ug/mL
					LCPFPeS_00003	100 uL	Perfluoropentanesulfonic acid	0.469 ug/mL
					LCPFTeDA_00008	100 uL	Perfluorotetradecanoic acid	0.5 ug/mL
					LCPFTrDA_00008	100 uL	Perfluorotridecanoic acid	0.5 ug/mL
					LCPFUDA_00008	100 uL	Perfluoroundecanoic acid	0.5 ug/mL
					(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
					(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
					(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL
					(Purchased Reagent)		N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
					(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
..LCbr-NEtFOSAA_00001			WELLINGTON, Lot brNEtFOSAA0118		(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	50 ug/mL
					(Purchased Reagent)		Perfluorobutyric acid	44.2 ug/mL
					(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorododecanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorodecane Sulfonic acid	48.2 ug/mL
					(Purchased Reagent)		Perfluoroheptanoic acid (PFHpA)	50 ug/mL
					(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
					(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorohexanesulfonic acid (PFHxS)	45.5 ug/mL
					(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
..LCPFNS_00003			WELLINGTON Laboratories, Lot LPFNS0917		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.05 ug/mL
					(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
					(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
					(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
					(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL
					(Purchased Reagent)			
					(Purchased Reagent)			
					(Purchased Reagent)			
					(Purchased Reagent)			



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCFPeS_00003	01/11/22	Wellington Laboratories, Lot LPFPeS0117		200 mL	(Purchased Reagent)	10 mL	Perfluoropentanesulfonic acid	46.9 ug/mL
..LCPFTeDA_00008	09/30/21	Wellington Laboratories, Lot PFTeDA0916			(Purchased Reagent)		Perfluorotetradecanoic acid	50 ug/mL
..LCFPTrDA_00008	05/02/22	Wellington Laboratories, Lot PFTTrDA0517			(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
..LCPFUDA_00008	10/18/21	Wellington Laboratories, Lot PFUDA1016			(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL
LCPFC_LL7_00004	08/20/18	02/22/18 MeOH/H2O, Lot 090285		200 mL	LCMPFC_ALL_SU_00041	10 mL	d3-NMeFOSAA	2.5 ng/mL
							d5-NEtFOSAA	2.5 ng/mL
							M2-6:2FTS	2.375 ng/mL
							M2-8:2FTS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFOA	2.5 ng/mL
							13C2-PFTeDA	2.5 ng/mL
							13C4-PFHpA	2.5 ng/mL
							13C5-PFPeA	2.5 ng/mL
							13C8 FOSA	2.5 ng/mL
							13C4 PFBA	2.5 ng/mL
							13C3-PFBS	2.325 ng/mL
							13C2 PFDA	2.5 ng/mL
							13C2 PFDoA	2.5 ng/mL
							13C2 PFHxA	2.5 ng/mL
							18O2 PFHxS	2.365 ng/mL
							13C5 PFNA	2.5 ng/mL
							13C4 PFOA	2.5 ng/mL
							13C4 PFOS	2.39 ng/mL
							13C2 PFUnA	2.5 ng/mL
					LCPFCS_P_00132	2 mL	Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	9.34 ng/mL
							Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	9.48 ng/mL
							Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	9.58 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	10 ng/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	10 ng/mL
							Perfluorobutyric acid	10 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	8.84 ng/mL
							Perfluorodecanoic acid	10 ng/mL
							Perfluorododecanoic acid	10 ng/mL
							Perfluorodecane Sulfonic acid	9.64 ng/mL
							Perfluoroheptanoic acid (PFHpA)	10 ng/mL
							Perfluoroheptanesulfonic acid	9.52 ng/mL
							Perfluorohexanoic acid	10 ng/mL
							Perfluorohexanesulfonic acid (PFHxS)	9.1 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCMPFC_ALL_SU_00041	08/20/18	02/20/18	Methanol, Lot Baker 141039	200 mL	LCd3-NMeFOSAA_00006	200 uL	Perfluoroundecanoic acid	0.05 ug/mL
					LCd5-NETFOSAA_00006	200 uL	d5-NETFOSAA	0.05 ug/mL
					LCM2-6:FTS_00006	200 uL	M2-6:2FTS	0.0475 ug/mL
					LCM2-8:2FTS_00008	200 uL	M2-8:2FTS	0.0479 ug/mL
					LCM2PFHxDA_00013	200 uL	13C2-PFHxDA	0.05 ug/mL
					LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
					LCM2PFTeDA_00012	200 uL	13C2-PFTeDA	0.05 ug/mL
					LCM4PFHPA_00012	200 uL	13C4-PFHxPA	0.05 ug/mL
					LCM5PFPEA_00013	200 uL	13C5-PFPeA	0.05 ug/mL
					LCM8FOSA_00016	200 uL	13C8 FOSA	0.05 ug/mL
					LCMPFBA_00013	200 uL	13C4 PFBA	0.05 ug/mL
					LCMPFBS_00006	200 uL	13C3-PFBS	0.0465 ug/mL
					LCMPFDA_00018	200 uL	13C2 PFDA	0.05 ug/mL
					LCMPFDoA_00013	200 uL	13C2 PFDoA	0.05 ug/mL
					LCMPFHxA_00019	200 uL	13C2 PFHxA	0.05 ug/mL
					LCMPFHxS_00013	200 uL	1802 PFHxS	0.0473 ug/mL
					LCMPFNA_00013	200 uL	13C5 PFNA	0.05 ug/mL
					LCMPFOA_00017	200 uL	13C4 PFOA	0.05 ug/mL
					LCMPFOS_00025	200 uL	13C4 PFOS	0.0478 ug/mL
					LCMPFuD_A_00014	200 uL	13C2 PFUnA	0.05 ug/mL
..LCd3-NMeFOSAA_00006	05/19/22		WELLINGTON, Lot d3NMeFOSAA0517		(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
..LCd5-NETFOSAA_00006	11/08/22		WELLINGTON, Lot d5NETFOSAA1117		(Purchased Reagent)		d5-NETFOSAA	50 ug/mL
..LCM2-6:FTS_00006	02/17/22		WELLINGTON, Lot M262FTS0217		(Purchased Reagent)		M2-6:2FTS	47.5 ug/mL
..LCM2-8:2FTS_00008	07/05/22		WELLINGTON, Lot M282FTS0717		(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
..LCM2PFHxDA_00013	07/13/22		Wellington Laboratories, Lot M2PFHxDA0717		(Purchased Reagent)		13C2-PFHxDA	50 ug/mL
..LCM2PFOA_00008	02/12/21		Wellington Laboratories, Lot M2PFOA0216		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCM2PFTeDA_00012	11/30/22		Wellington Laboratories, Lot M2PFTeDA1117		(Purchased Reagent)		13C2-PFTeDA	50 ug/mL
..LCM4PFHPA_00012	05/03/22		Wellington Laboratories, Lot M4PFHPA0517		(Purchased Reagent)		13C4-PFHxPA	50 ug/mL
..LCM5PFPEA_00013	07/20/22		Wellington Laboratories, Lot M5PFPeA0717		(Purchased Reagent)		13C5-PFPeA	50 ug/mL
..LCM8FOSA_00016	10/11/22		Wellington Laboratories, Lot M8FOSA1017I		(Purchased Reagent)		13C8 FOSA	50 ug/mL
..LCMPFBA_00013	04/12/22		Wellington Laboratories, Lot MPFBA0417		(Purchased Reagent)		13C4 PFBA	50 ug/mL
..LCMPFBS_00006	05/24/22		Wellington Laboratories, Lot M3PFBS0815		(Purchased Reagent)		13C3-PFBS	46.5 ug/mL
..LCMPFDA_00018	07/13/22		Wellington Laboratories, Lot MPFDA0717		(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFDoA_00013	05/23/22		Wellington Laboratories, Lot MPFDoA0517		(Purchased Reagent)		13C2 PFDoA	50 ug/mL
..LCMPFHxA_00019	10/27/22		Wellington Laboratories, Lot MPFHxA1017		(Purchased Reagent)		13C2 PFHxA	50 ug/mL
..LCMPFHxS_00013	02/17/22		Wellington Laboratories, Lot MPFHxS0217		(Purchased Reagent)		1802 PFHxS	47.3 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCMPFNA_00013	09/30/21	Wellington Laboratories	Wellington Laboratories, Lot MPFNA0916 Wellington Laboratories, Lot MPFOA1017 Wellington Laboratories, Lot MPFOS1017 Wellington Laboratories, Lot MPFUDA1116 Methanol, Lot 090285	10000 uL	(Purchased Reagent)	200 uL	13C5 PFNA	50 ug/mL
..LCMPFOA_00017	10/17/22	Wellington Laboratories			(Purchased Reagent)		13C4 PFOA	50 ug/mL
..LCMPFOS_00025	10/17/22	Wellington Laboratories			(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
..LCMPFUDA_00014	11/22/21	Wellington Laboratories			(Purchased Reagent)		13C2 PFUNA	50 ug/mL
..LCMPCSP_00132	08/20/18	02/20/18			LC4:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.934 ug/mL
					LC6:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.948 ug/mL
					LC8:2FTS_00003	200 uL	Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.958 ug/mL
					LCN-EtFOSAA_00004	200 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	1 ug/mL
					LCN-MeFOSAA_00005	200 uL	N-methyl perfluorooctane sulfonamidoacetic acid	1 ug/mL
					LCPFBA_00007	200 uL	Perfluorobutyric acid	1 ug/mL
					LCPFBS_00008	200 uL	Perfluorobutanesulfonic acid (PFBS)	0.884 ug/mL
					LCPFDA_00008	200 uL	Perfluorodecanoic acid	1 ug/mL
					LCPFDoA_00008	200 uL	Perfluorododecanoic acid	1 ug/mL
					LCPFDSA_00002	200 uL	Perfluorodecane Sulfonic acid	0.964 ug/mL
					LCPFHpA_00008	200 uL	Perfluoroheptanoic acid (PFHpA)	1 ug/mL
					LCPFHpSA_00003	200 uL	Perfluoroheptanesulfonic acid	0.952 ug/mL
					LCPFHxA_00007	200 uL	Perfluorohexanoic acid	1 ug/mL
					LCPFHxS-br_00004	200 uL	Perfluorohexanesulfonic acid (PFHxS)	0.91 ug/mL
					LCPFNA_00009	200 uL	Perfluorononanoic acid (PFNA)	1 ug/mL
					LCPFNS_00003	200 uL	Perfluorononanesulfonic acid	0.96 ug/mL
					LCPFOA_00009	200 uL	Perfluorooctanoic acid (PFOA)	1 ug/mL
					LCPFOS-br_00004	200 uL	Perfluorooctanesulfonic acid (PFOS)	0.928 ug/mL
					LCPFOSA_00010	200 uL	Perfluorooctane Sulfonamide	1 ug/mL
					LCPFPeA_00007	200 uL	Perfluoropentanoic acid	1 ug/mL
					LCPFPeS_00003	200 uL	Perfluoropentanesulfonic acid	0.938 ug/mL
					LCPFTeDA_00006	200 uL	Perfluorotetradecanoic acid	1 ug/mL
					LCPFTrDA_00006	200 uL	Perfluorotridecanoic acid	1 ug/mL
					LCPFUDA_00007	200 uL	Perfluoroundecanoic acid	1 ug/mL
..LC4:2FTS_00003	12/12/21		WELLINGTON, Lot 42FTS1216		(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
..LC6:2FTS_00003	06/25/21		WELLINGTON, Lot 62FTS0616		(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
..LC8:2FTS_00003	08/22/21		WELLINGTON, Lot 82FTS0816		(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCN-EtFOSAA_00004	09/30/21	WELLINGTON,	Lot NetFOSAA0916		(Purchased Reagent)		N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
..LCN-MeFOSAA_00005	10/12/21	WELLINGTON,	Lot NMeFOSAA0916		(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
..LCPFBA_00007	05/27/21	Wellington Laboratories,	Lot PFBA0516		(Purchased Reagent)		Perfluorobutyric acid	50 ug/mL
..LCPFBS_00008	03/15/21	Wellington Laboratories,	Lot LFPBS0316		(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
..LCPFDA_00008	05/29/22	Wellington Laboratories,	Lot PFDA0517		(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
..LCPFDoA_00008	05/29/22	Wellington Laboratories,	Lot PFDoA0517		(Purchased Reagent)		Perfluorododecanoic acid	50 ug/mL
..LCPFDSA_00002	05/24/21	Wellington Laboratories,	Lot LPFDS0516		(Purchased Reagent)		Perfluorodecane Sulfonic acid	48.2 ug/mL
..LCPFHpA_00008	12/02/21	Wellington Laboratories,	Lot PFHpA1216		(Purchased Reagent)		Perfluoroheptanoic acid (PFHpA)	50 ug/mL
..LCPFHpsA_00003	09/01/22	Wellington Laboratories,	Lot LPFHps0817		(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
..LCPFHxA_00007	12/22/20	Wellington Laboratories,	Lot PFHxA1215		(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
..LCPFHxS-br_00004	07/03/20	Wellington Laboratories,	Lot brPFHxSK0615		(Purchased Reagent)		Perfluorohexanesulfonic acid (PFHxS)	45.5 ug/mL
..LCPFNA_00009	07/20/22	Wellington Laboratories,	Lot PFNA0717		(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
..LCPFNS_00003	09/27/22	Wellington Laboratories,	Lot LPFNS0917		(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
..LCPFOA_00009	09/27/22	Wellington Laboratories,	Lot PFOA0917		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
..LCPFOS-br_00004	10/14/20	Wellington Laboratories,	Lot brPFOSK1015		(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
..LCPFOSA_00010	09/30/21	Wellington Laboratories,	Lot FOSA0916I		(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
..LCPFPeA_00007	05/31/21	Wellington Laboratories,	Lot FPFeA0516		(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL
..LCPFPeS_00003	01/11/22	Wellington Laboratories,	Lot LPFPes0117		(Purchased Reagent)		Perfluoropentanesulfonic acid	46.9 ug/mL
..LCPFTeDA_00006	12/09/20	Wellington Laboratories,	Lot PFTeDA1215		(Purchased Reagent)		Perfluorotetradecanoic acid	50 ug/mL
..LCPFTrDA_00006	02/12/21	Wellington Laboratories,	Lot PFTTrDA0216		(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
..LCPFUDA_00007	10/18/21	Wellington Laboratories,	Lot PFUDa1016		(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL
LCPFC_LL7_00005	11/18/18	06/05/18	MeOH/H2O, Lot 090285	200 mL	LCMPFC_ALL_SU_00075	10 mL	d3-NMeFOSAA	2.5 ng/mL
							d5-NEtFOSAA	2.5 ng/mL
							M2-6:2FTS	2.375 ng/mL
							M2-8:2FTS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFOA	2.5 ng/mL
							13C2-PFTeDA	2.5 ng/mL
							13C4-PFHpA	2.5 ng/mL
							13C5-PFPeA	2.5 ng/mL
							13C8 FOSA	2.5 ng/mL
							13C4 PFBA	2.5 ng/mL
							13C3-PFBS	2.325 ng/mL
							13C2 PFDA	2.5 ng/mL
							13C2 PFDoA	2.5 ng/mL
							13C2 PFHxA	2.5 ng/mL
							18O2 PFHxS	2.365 ng/mL
							13C5 PFNA	2.5 ng/mL
							13C4 PFOA	2.5 ng/mL
							13C4 PFOS	2.39 ng/mL
							13C2 PFUnA	2.5 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.LCMFFC_ALL_SU_00075	12/05/18	06/05/18	Methanol, Lot Baker 141039	200 mL	LCFFCSP_00148	4 mL	Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	9.34 ng/mL
							Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	9.48 ng/mL
							Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	9.58 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	10 ng/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	10 ng/mL
							Perfluorobutyric acid	10 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	8.84 ng/mL
							Perfluorodecanoic acid	10 ng/mL
							Perfluorododecanoic acid	10 ng/mL
							Perfluorodecane Sulfonic acid	9.64 ng/mL
							Perfluoroheptanoic acid (PFHpA)	10 ng/mL
							Perfluoroheptanesulfonic acid	9.52 ng/mL
							Perfluorohexanoic acid	10 ng/mL
							Perfluorohexanesulfonic acid (PFHxS)	9.1 ng/mL
							Perfluorononanoic acid (PFNA)	10 ng/mL
							Perfluorooctanoic acid (PFOA)	10.01 ng/mL
							Perfluorononanesulfonic acid	9.6 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	9.28 ng/mL
							Perfluorooctane Sulfonamide	10 ng/mL
							Perfluoropentanoic acid	10 ng/mL
							Perfluoropentanesulfonic acid	9.38 ng/mL
							Perfluorotetradecanoic acid	10 ng/mL
							Perfluorotridecanoic acid	10 ng/mL
							Perfluoroundecanoic acid	10 ng/mL
					LCd3-NMeFOSAA_00008	200 uL	d3-NMeFOSAA	0.05 ug/mL
					LCd5-NETFOSAA_00008	200 uL	d5-NETFOSAA	0.05 ug/mL
					LCM2-6:FTS_00008	200 uL	M2-6:2FTS	0.0475 ug/mL
					LCM2-8:2FTS_00010	200 uL	M2-8:2FTS	0.0479 ug/mL
					LCM2PFHxDA_00016	200 uL	13C2-PFHxDA	0.05 ug/mL
					LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
					LCM2PFTeDA_00014	200 uL	13C2-PFTeDA	0.05 ug/mL
					LCM4PFHPA_00014	200 uL	13C4-PFHPa	0.05 ug/mL
					LCM5PFPEA_00015	200 uL	13C5-PFPeA	0.05 ug/mL
					LCM8FOSA_00019	200 uL	13C8 FOSA	0.05 ug/mL
					LCMPFBA_00015	200 uL	13C4 PFBA	0.05 ug/mL
					LCMPFBS_00008	200 uL	13C3-PFBS	0.0465 ug/mL

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCd3-NMeFOSAA_00008	11/08/22		WELLINGTON, Lot d3NMeFOSAA1117		LCMPFDA_00020	200 uL	13C2 PFDA	0.05 ug/mL
..LCd5-NEtFOSAA_00008	11/08/22		WELLINGTON, Lot d5NEtFOSAA1117		LCMPFDoA_00015	200 uL	13C2 PFDoA	0.05 ug/mL
..LCM2-6:FTS_00008	02/16/23		WELLINGTON, Lot M262FTS0218		LCMPFHxA_00022	200 uL	13C2 PFHxA	0.05 ug/mL
..LCM2-8:2FTS_00010	01/24/23		WELLINGTON, Lot M282FTS0118		LCMPFHxS_00015	200 uL	1802 PFHxS	0.0473 ug/mL
..LCM2PFHxDA_00016	02/12/21		Wellington Laboratories, Lot M2PFHxDA0717		LCMPFNA_00015	200 uL	13C5 PFNA	0.05 ug/mL
..LCM2PFTeDA_00014	07/13/22		Wellington Laboratories, Lot M2PFTeDA1117		LCMPFOA_00019	200 uL	13C4 PFOA	0.05 ug/mL
..LCM4PFHxA_00014	05/03/22		Wellington Laboratories, Lot M4PFHxA0517		LCMPFOS_00027	200 uL	13C4 PFOS	0.0478 ug/mL
..LCM5PFPeA_00015	07/20/22		Wellington Laboratories, Lot M5PFPeA0717		LCMPFUDa_00017	200 uL	13C2 PFUnA	0.05 ug/mL
..LCM8FOSA_00019	10/11/22		Wellington Laboratories, Lot M8FOSA1017I		(Purchased Reagent)		d3-NMeFOSAA	50 ug/mL
..LCMPFBA_00015	02/16/23		Wellington Laboratories, Lot MPFBA0218		(Purchased Reagent)		d5-NEtFOSAA	50 ug/mL
..LCMPFBS_00008	02/15/23		Wellington Laboratories, Lot M3PFBS0218		(Purchased Reagent)		M2-6:2FTS	47.5 ug/mL
..LCMPFDA_00020	02/16/23		Wellington Laboratories, Lot MPFDoA0218		(Purchased Reagent)		M2-8:2FTS	47.9 ug/mL
..LCMPFDoA_00015	02/16/23		Wellington Laboratories, Lot MPFDoA0218		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCMPFHxA_00022	10/27/22		Wellington Laboratories, Lot MPFHxA1017		(Purchased Reagent)		13C2-PFTeDA	50 ug/mL
..LCMPFHxS_00015	03/22/23		Wellington Laboratories, Lot MPFHxS0318		(Purchased Reagent)		13C4-PFHxA	50 ug/mL
..LCMPFNA_00015	12/14/22		Wellington Laboratories, Lot MPFNA1217		(Purchased Reagent)		13C5-PFNA	50 ug/mL
..LCMPFOA_00019	05/04/23		Wellington Laboratories, Lot MPFOA0418		(Purchased Reagent)		13C4 PFOA	50 ug/mL
..LCMPFOS_00027	02/15/23		Wellington Laboratories, Lot MPFOS0218		(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
..LCMPFUDa_00017	11/22/21		Wellington Laboratories, Lot MPFUDa1116		(Purchased Reagent)		13C2 PFUnA	50 ug/mL
.LCPPCSP_00148	11/18/18	05/17/18	Methanol, Lot 090285	10 mL	LC4:2FTS_00005	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	0.467 ug/mL
					LC6:2FTS_00007	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	0.474 ug/mL
					LC8:2FTS_00007	100 uL	Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	0.479 ug/mL
					LCbr-NEtFOSAA_00001	100 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
					LCbr-NMeFOSAA_00001	100 uL	N-methyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
					LCPFBA_00008	100 uL	Perfluorobutyric acid	0.5 ug/mL
					LCPFBS_00009	100 uL	Perfluorobutanesulfonic acid (PFBS)	0.442 ug/mL
					LCPFDA_00008	100 uL	Perfluorodecanoic acid	0.5 ug/mL
					LCPFDoA_00008	100 uL	Perfluorododecanoic acid	0.5 ug/mL
					LCPFDS_00008	100 uL	Perfluorodecane Sulfonic acid	0.482 ug/mL
					LCPFHxA_00011	100 uL	Perfluoroheptanoic acid (PFHxA)	0.5 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LC4:2FTS_00005	12/12/21		WELLINGTON, Lot 42FTS1216		LCPFHpsA_00003	100 uL	Perfluoroheptanesulfonic acid	0.476 ug/mL
					LCPFHxA_00010	100 uL	Perfluorohexanoic acid	0.5 ug/mL
					LCPFHxS-br_00006	100 uL	Perfluorohexanesulfonic acid (PFHxS)	0.455 ug/mL
					LCPFNA_00010	100 uL	Perfluorononanoic acid (PFNA)	0.5 ug/mL
							Perfluorooctanoic acid (PFOA)	0.5005 ug/mL
					LCPFNS_00003	100 uL	Perfluorononanesulfonic acid	0.48 ug/mL
					LCPFOA_00011	100 uL	Perfluorooctanoic acid (PFOA)	0.5005 ug/mL
					LCPFOS-br_00007	100 uL	Perfluorooctanesulfonic acid (PFOS)	0.464 ug/mL
					LCPFOSA_00013	100 uL	Perfluorooctane Sulfonamide	0.5 ug/mL
..LC6:2FTS_00007	04/20/22		WELLINGTON, Lot 62FTS0417		LCPFPeA_00008	100 uL	Perfluoropentanoic acid	0.5 ug/mL
					LCPFPeS_00003	100 uL	Perfluoropentanesulfonic acid	0.469 ug/mL
					LCPFTeDA_00008	100 uL	Perfluorotetradecanoic acid	0.5 ug/mL
					LCPFTrDA_00008	100 uL	Perfluorotridecanoic acid	0.5 ug/mL
					LCPFUDA_00008	100 uL	Perfluoroundecanoic acid	0.5 ug/mL
					(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
					(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
					(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL
					(Purchased Reagent)		N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
					(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
..LCbr-NMeFOSAA_00001	01/17/23		WELLINGTON, Lot brNEtFOSAA0118		(Purchased Reagent)		Perfluorobutyric acid	50 ug/mL
					(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
					(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorododecanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorodecane Sulfonic acid	48.2 ug/mL
					(Purchased Reagent)		Perfluoroheptanoic acid (PFHpA)	50 ug/mL
					(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
					(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorohexanesulfonic acid (PFHxS)	45.5 ug/mL
					(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
..LCPFNS_00003	09/27/22		WELLINGTON Laboratories, Lot LPFNS0917		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.05 ug/mL
					(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
					(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
					(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
					(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL
					(Purchased Reagent)			
					(Purchased Reagent)			
					(Purchased Reagent)			
					(Purchased Reagent)			
..LCPFHpsA_00003	09/01/22		WELLINGTON Laboratories, Lot LPFHpS0817		(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
					(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
					(Purchased Reagent)		Perfluorohexanesulfonic acid	45.5 ug/mL
					(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.05 ug/mL
					(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
					(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
					(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
					(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
					(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCFPeS_00003	01/11/22	Wellington Laboratories, Lot LPFPeS0117		200 mL	(Purchased Reagent)	10 mL	Perfluoropentanesulfonic acid	46.9 ug/mL
..LCPFTeDA_00008	09/30/21	Wellington Laboratories, Lot PFTeDA0916		200 mL	(Purchased Reagent)	200 uL	Perfluorotetradecanoic acid	50 ug/mL
..LCPFTrDA_00008	05/02/22	Wellington Laboratories, Lot PFTTrDA0517		200 mL	(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
..LCPFUDA_00008	10/18/21	Wellington Laboratories, Lot PFUDA1016		200 mL	(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL
<b>LCPFIC_FULL_00011</b>	07/02/18	02/22/18 MeOH/H2O, Lot 09285		200 mL	LCMPFC_ALL_SU_00041	10 mL	13C2-PFOA	2.5 ng/mL
..LCMPFC_ALL_SU_00041	08/20/18	02/20/18 Methanol, Lot Baker 141039		200 mL	LCM2PFOA_00008	200 uL	13C2-PFOA	0.05 ug/mL
..LCM2PFOA_00008	02/12/21	Wellington Laboratories, Lot M2PFOA0216		200 mL	(Purchased Reagent)		13C2-PFOA	50 ug/mL
<b>LCPFIC_FULL_00011</b>	07/02/18	02/22/18 MeOH/H2O, Lot 09285		200 mL	LCMPFC_ALL_SU_00041	10 mL	d3-NMeFOSAA	2.5 ng/mL
							d5-NMeFOSAA	2.5 ng/mL
							M2-6:2FTS	2.375 ng/mL
							M2-8:2FTS	2.395 ng/mL
							13C2-PFHxDA	2.5 ng/mL
							13C2-PFTeDA	2.5 ng/mL
							13C4-PFHpA	2.5 ng/mL
							13C5-PFPeA	2.5 ng/mL
							13C8 FOSA	2.5 ng/mL
							13C4 PFBA	2.5 ng/mL
							13C3-PFBS	2.325 ng/mL
							13C2 PFDA	2.5 ng/mL
							13C2 PFDoA	2.5 ng/mL
							13C2 PFHxA	2.5 ng/mL
							18O2 PFHxS	2.365 ng/mL
							13C5 PFNA	2.5 ng/mL
							13C4 PFOA	2.5 ng/mL
							13C4 PFOS	2.39 ng/mL
							13C2 PFUnA	2.5 ng/mL
					LCPFAC-24PAR_00001	250 uL	Perfluorobutanesulfonic acid (PFBS)	2.2125 ng/mL
							Perfluoroheptanoic acid (PFHpA)	2.5 ng/mL
							Perfluorohexanesulfonic acid (PFHxS)	2.28 ng/mL
							Perfluorononanoic acid (PFNA)	2.5 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	2.31375 ng/mL
							Perfluorooctanoic acid (PFOA)	2.5 ng/mL
							d3-NMeFOSAA	0.05 ug/mL
<b>..LCMPFC_ALL_SU_00041</b>	08/20/18	02/20/18 Methanol, Lot Baker 141039		200 mL	LCd3-NMeFOSAA_00006	200 uL	d5-NMeFOSAA	0.05 ug/mL
							LCM2-6:FTS_00006	0.0475 ug/mL
							LCM2-8:2FTS_00008	0.0479 ug/mL
							LCM2PFHxDA_00013	0.05 ug/mL
							LCM2PFTeDA_00012	0.05 ug/mL
							LCM4PFHpA_00012	0.05 ug/mL
							LCM5PFPeA_00013	0.05 ug/mL
							LCM8FOSA_00016	0.05 ug/mL
							LCMPFBA_00013	0.05 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LCd3-NMeFOSAA 00006	05/19/22		WELLINGTON, Lot d3NMeFOSAA0517		LCMPFBS 00006	200 uL	13C3-PFBS	0.0465 ug/mL
..LCd5-NMeFOSAA 00006	11/08/22		WELLINGTON, Lot d5NMeFOSAA1117		LCMPFDA 00018	200 uL	13C2 PFDA	0.05 ug/mL
..LCM2-6:FTS 00006	02/17/22		WELLINGTON, Lot M262FTS0217		LCMPFDoA 00013	200 uL	13C2 PFDoA	0.05 ug/mL
..LCM2-8:2FTS 00008	07/05/22		WELLINGTON, Lot M282FTS0717		LCMPFHxA 00019	200 uL	13C2 PFHxA	0.05 ug/mL
..LCM2PFHxDA 00013	07/13/22		Wellington Laboratories, Lot M2PFHxDA0717		LCMPFHxS 00013	200 uL	1802 PFHxS	0.0473 ug/mL
..LCM2PFTeDA 00012	11/30/22		Wellington Laboratories, Lot M2PFTeDA1117		LCMPFNA 00013	200 uL	13C5 PFNA	0.05 ug/mL
..LCM4PFHxA 00012	05/03/22		Wellington Laboratories, Lot M4PFHxA0517		LCMPFOA 00017	200 uL	13C4 PFOA	0.05 ug/mL
..LCM5PFPeA 00013	07/20/22		Wellington Laboratories, Lot M5PFPeA0717		LCMPFOS 00025	200 uL	13C4 PFOS	0.0478 ug/mL
..LCM8FOSA 00016	10/11/22		Wellington Laboratories, Lot M8FOSA1017I		LCMPFudA 00014	200 uL	13C2 PFUnA	0.05 ug/mL
..LCMPFBA 00013	04/12/22		Wellington Laboratories, Lot MPFBA0417				d3-NMeFOSAA	50 ug/mL
..LCMPFBS 00006	05/24/22		Wellington Laboratories, Lot M3PFBS0815				d5-NMeFOSAA	50 ug/mL
..LCMPFDA 00018	07/13/22		Wellington Laboratories, Lot MPFDA0717				M2-6:2FTS	47.5 ug/mL
..LCMPFDoA 00013	05/23/22		Wellington Laboratories, Lot MPFDoA0517				M2-8:2FTS	47.9 ug/mL
..LCMPFHxA 00019	10/27/22		Wellington Laboratories, Lot MPFHxA1017				13C2-PFHxDA	50 ug/mL
..LCMPFHxS 00013	02/17/22		Wellington Laboratories, Lot MPFHxS0217				13C2-PFTeDA	50 ug/mL
..LCMPFNA 00013	09/30/21		Wellington Laboratories, Lot MPFNA0916				13C4-PFHxA	50 ug/mL
..LCMPFOA 00017	10/17/22		Wellington Laboratories, Lot MPFOA1017				13C5-PFPeA	50 ug/mL
..LCMPFOS 00025	10/17/22		Wellington Laboratories, Lot MPFOS1017				13C8 FOSA	50 ug/mL
..LCMPFudA 00014	11/22/21		Wellington Laboratories, Lot MPFudA1116				13C4 PFOA	50 ug/mL
.LCPFAC-24FAR_00001	09/15/22		Wellington Laboratories, Lot PFAC24PAR0917				13C4 PFOS	47.8 ug/mL
							13C2 PFUnA	50 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	1.77 ug/mL
							Perfluoroheptanoic acid (PFHpA)	2 ug/mL
							Perfluorohexanesulfonic acid (PFHxS)	1.824 ug/mL
							Perfluorononanoic acid (PFNA)	2 ug/mL
							Perfluorooctanesulfonic acid (PFOS)	1.851 ug/mL
							Perfluorooctanoic acid (PFOA)	2 ug/mL
LCPFCS_P_00138	09/20/18	03/20/18	Methanol, Lot 090285	250 mL	LC11CIPF30Uds_00001	100 uL	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonate	0.01884 ug/mL
					LC4:2FTS_00003	100 uL	Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	0.01868 ug/mL
					LC6:2FTS_00003	100 uL	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.01896 ug/mL
					LC8:2FTS_00003	100 uL	Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	0.01916 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.LC11CIPF30uds_00001					LC9CI-PF3ONS_00001	100 uL	9-Chlorohexadecafluoro-3-oxanone-1-sulfonate	0.01864 ug/mL
					LCDONA_00001	100 uL	Adona	0.02 ug/mL
					LCHFPO-DA_00001	100 uL	Perfluoro (2-propoxypropanoic) acid	0.02 ug/mL
					LCN-EtFOSA-M_00005	100 uL	N-ethylperfluoro-1-octanesulfonamide	0.02 ug/mL
					LCN-EtFOSAA_00004	100 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	0.02 ug/mL
					LCN-MeFOSA-M_00004	100 uL	MeFOSA	0.02 ug/mL
					LCN-MeFOSAA_00004	100 uL	N-methyl perfluorooctane sulfonamidoacetic acid	0.02 ug/mL
					LCPFBA_00007	100 uL	Perfluorobutyric acid	0.02 ug/mL
					LCPFBS_00008	100 uL	Perfluorobutane Sulfonate	0.01768 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	0.01768 ug/mL
					LCPFDA_00007	100 uL	Perfluorodecanoic acid	0.02 ug/mL
					LCPFDoA_00007	100 uL	Perfluorododecanoic acid	0.02 ug/mL
					LCPFDSA_00002	100 uL	Perfluorodecane Sulfonic acid	0.01928 ug/mL
					LCPFHpA_00008	100 uL	Perfluoroheptanoic acid (PFHpA)	0.02 ug/mL
					LCPFHpSA_00003	100 uL	Perfluoroheptanesulfonic acid	0.01904 ug/mL
					LCPFHxA_00007	100 uL	Perfluorohexanoic acid	0.02 ug/mL
					LCPFHxDA_00008	100 uL	Perfluorohexadecanoic acid	0.02 ug/mL
					LCPFHxS-br_00004	100 uL	Perfluorohexane Sulfonate	0.0182 ug/mL
							Perfluorohexanesulfonic acid (PFHxS)	0.0182 ug/mL
					LCPFNA_00009	100 uL	Perfluorononanoic acid (PFNA)	0.02 ug/mL
.LC4:2FTS_00003					LCPFNS_00003	100 uL	Perfluorononanesulfonic acid	0.0192 ug/mL
					LCPFOA_00008	100 uL	Perfluorooctanoic acid (PFOA)	0.02 ug/mL
					LCPFODA_00008	100 uL	Perfluorooctadecanoic acid	0.02 ug/mL
					LCPFOS-br_00004	100 uL	Perfluorooctanesulfonic acid (PFOS)	0.01856 ug/mL
					LCPFOSA_00010	100 uL	Perfluorooctane Sulfonamide	0.02 ug/mL
					LCPFPeA_00007	100 uL	Perfluoropentanoic acid	0.02 ug/mL
					LCPFPeS_00003	100 uL	Perfluoropentanesulfonic acid	0.01876 ug/mL
					LCPFTeDA_00007	100 uL	Perfluorotetradecanoic acid	0.02 ug/mL
					LCPFTrDA_00007	100 uL	Perfluorotridecanoic acid	0.02 ug/mL
					LCPFUGA_00007	100 uL	Perfluoroundecanoic acid	0.02 ug/mL
.LC11CIPF30uds_00001	09/30/21	Wellington Labs, Lot 11CIPF30Uds0916			(Purchased Reagent)		11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate	47.1 ug/mL
.LC4:2FTS_00003	12/12/21	WELLINGTON, Lot 42FTS1216			(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
.LC6:2FTS_00003	06/25/21	WELLINGTON, Lot 62FTS0616			(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.LC8:2FTS_00003	08/22/21		WELLINGTON, Lot 82FTS0816		(Purchased Reagent)		Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL
.LC9CI-PF3ONS_00001	09/30/21	Wellington Labs, Lot 9CIPF3ONS0916			(Purchased Reagent)		9-Chlorohexadecafluoro-3-oxonane-1-sulfonate	46.6 ug/mL
.LCDONA 00001	04/10/22	WELLINGTON, Lot NADONA0417			(Purchased Reagent)		Adona	50 ug/mL
.LCHFPO-DA_00001	07/03/20	WELLINGTON, Lot HFPODA0717			(Purchased Reagent)		Perfluoro(2-propoxypropanoic) acid	50 ug/mL
.LCN-EtFOSA-M_00005	05/24/21	WELLINGTON, Lot NETFOSA0516M			(Purchased Reagent)		N-ethylperfluoro-1-octanesulfonamide	50 ug/mL
.LCN-EtFOSAA_00004	09/30/21	WELLINGTON, Lot NETFOSAA0916			(Purchased Reagent)		N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
.LCN-MeFOSA-M_00004	05/24/21	WELLINGTON, Lot NMeFOSA0516M			(Purchased Reagent)		MeFOSA	50 ug/mL
.LCN-MeFOSAA_00004	10/12/21	WELLINGTON, Lot NMeFOSAA0916			(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
.LCPFBA 00007	05/27/21	Wellington Laboratories, Lot PFBA0516			(Purchased Reagent)		Perfluorobutyric acid	50 ug/mL
.LCPFBS_00008	03/15/21	Wellington Laboratories, Lot LPFBS0316			(Purchased Reagent)		Perfluorobutane Sulfonate	44.2 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
.LCPFDA 00007	05/31/21	Wellington Laboratories, Lot PFDA0516			(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
.LCPFDoA 00007	05/31/21	Wellington Laboratories, Lot PFDoA0516			(Purchased Reagent)		Perfluorododecanoic acid	50 ug/mL
.LCPFDSA 00002	05/24/21	Wellington Laboratories, Lot LPFDS0516			(Purchased Reagent)		Perfluorodecane Sulfonic acid	48.2 ug/mL
.LCPFHpA_00008	12/02/21	Wellington Laboratories, Lot PFHpA1216			(Purchased Reagent)		Perfluoroheptanoic acid (PFHpA)	50 ug/mL
.LCPFHpsA 00003	09/01/22	Wellington Laboratories, Lot LPFHps0817			(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
.LCPFHxA 00007	12/22/20	Wellington Laboratories, Lot PFHxA1215			(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
.LCPFHxDA 00008	05/25/21	Wellington Laboratories, Lot PFHxDA0516			(Purchased Reagent)		Perfluorohexadecanoic acid	50 ug/mL
.LCPFHxS-br_00004	07/03/20	Wellington Laboratories, Lot brPFHxSK0615			(Purchased Reagent)		Perfluorohexane Sulfonate	45.5 ug/mL
							Perfluorohexanesulfonic acid (PFHxS)	45.5 ug/mL
.LCPFNA 00009	07/20/22	Wellington Laboratories, Lot PFNA0717			(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
.LCPFNS 00003	09/27/22	Wellington Laboratories, Lot LPFNS0917			(Purchased Reagent)		Perfluoronanesulfonic acid	48 ug/mL
.LCPFOA 00008	08/02/21	Wellington Laboratories, Lot PFOA0716			(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
.LCFODA 00008	04/29/21	Wellington Laboratories, Lot PFODA0416			(Purchased Reagent)		Perfluorooctadecanoic acid	50 ug/mL
.LCPFOS-br_00004	10/14/20	Wellington Laboratories, Lot brPFOSK1015			(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
.LCPFOSA 00010	09/30/21	Wellington Laboratories, Lot FOSA0916I			(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
.LCPFPeA 00007	05/31/21	Wellington Laboratories, Lot PFPeA0516			(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL
.LCPFPes 00003	01/11/22	Wellington Laboratories, Lot LPFPes0117			(Purchased Reagent)		Perfluoropentanesulfonic acid	46.9 ug/mL
.LCPTeDA 00007	09/30/21	Wellington Laboratories, Lot PFTeDA0916			(Purchased Reagent)		Perfluorotetradecanoic acid	50 ug/mL
.LCPTTrDA 00007	02/12/21	Wellington Laboratories, Lot PFTrDA0216			(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
.LCPFUDA 00007	10/18/21	Wellington Laboratories, Lot PFUDA1016			(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL
<b>LCPFCSF_00144</b>	11/15/18	05/15/18 Methanol, Lot 090285		250 mL	LC11CIPF30UDS_00001	100 uL	11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate	0.01884 ug/mL
					LC4:2FTS_00003	100 uL	Sodium 1H,1H,2H,2H-perfluorohexane sulfonate (4:2)	0.01868 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.LC11CIPF30Uds_00001	09/30/21	Wellington Labs, Lot 11CIPF30Uds0916			LC6:2FTS_00003	100 uL	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.01896 ug/mL
					LC8:2FTS_00003	100 uL	Sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2)	0.01916 ug/mL
					LC9CI-PF3ONS_00001	100 uL	9-Chlorohexadecafluoro-3-oxanone-1-sulfonate	0.01864 ug/mL
					LCbr-NETFOSAA_00001	100 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	0.02 ug/mL
					LCbr-NMeFOSAA_00001	100 uL	N-methyl perfluorooctane sulfonamidoacetic acid	0.02 ug/mL
					LCDONA_00001	100 uL	Adona	0.02 ug/mL
					LCHFPO-DA_00001	100 uL	Perfluoro (2-propoxypropanoic) acid	0.02 ug/mL
					LCN-BtFOSA-M_00005	100 uL	N-ethylperfluoro-1-octanesulfonamide	0.02 ug/mL
					LCN-MeFOSA-M_00004	100 uL	MeFOSA	0.02 ug/mL
					LCPFBA_00007	100 uL	Perfluorobutyric acid	0.02 ug/mL
					LCPFBS_00008	100 uL	Perfluorobutane Sulfonate	0.01768 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	0.01768 ug/mL
					LCPFDA_00007	100 uL	Perfluorodecanoic acid	0.02 ug/mL
					LCPFDoA_00007	100 uL	Perfluorododecanoic acid	0.02 ug/mL
					LCPFDSA_00002	100 uL	Perfluorodecane Sulfonic acid	0.01928 ug/mL
					LCPFHpA_00008	100 uL	Perfluoroheptanoic acid (PFHpA)	0.02 ug/mL
					LCPFHpSA_00003	100 uL	Perfluoroheptanesulfonic acid	0.01904 ug/mL
					LCPFHxA_00007	100 uL	Perfluorohexanoic acid	0.02 ug/mL
					LCPFHxDA_00008	100 uL	Perfluorohexadecanoic acid	0.02 ug/mL
					LCPFHxS-br_00004	100 uL	Perfluorohexane Sulfonate	0.0182 ug/mL
							Perfluorohexanesulfonic acid (PFHxS)	0.0182 ug/mL
					LCPFNA_00009	100 uL	Perfluorononanoic acid (PFNA)	0.02 ug/mL
					LCPFNS_00003	100 uL	Perfluorononanesulfonic acid	0.0192 ug/mL
					LCPFoA_00008	100 uL	Perfluorooctanoic acid (PFOA)	0.02 ug/mL
					LCPFODA_00008	100 uL	Perfluorooctadecanoic acid	0.02 ug/mL
					LCPFOS-br_00004	100 uL	Perfluorooctanesulfonic acid (PFOS)	0.01856 ug/mL
					LCPFOSA_00010	100 uL	Perfluorooctane Sulfonamide	0.02 ug/mL
					LCPFPeA_00007	100 uL	Perfluoropentanoic acid	0.02 ug/mL
					LCPFPeS_00003	100 uL	Perfluoropentanesulfonic acid	0.01876 ug/mL
					LCPFTeDA_00007	100 uL	Perfluorotetradecanoic acid	0.02 ug/mL
					LCPFTrDA_00007	100 uL	Perfluorotridecanoic acid	0.02 ug/mL
					LCPFVda_00007	100 uL	Perfluoroundecanoic acid	0.02 ug/mL
							11-Chloroeicosafuoro-3-oxaundecane-1-sulfonate	47.1 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.LC4:2FTS_00003	12/12/21		WELLINGTON, Lot 42FTS1216		(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorohexane sulfonate (4:2)	46.7 ug/mL
.LC6:2FTS_00003	06/25/21		WELLINGTON, Lot 62FTS0616		(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
.LC8:2FTS_00003	08/22/21		WELLINGTON, Lot 82FTS0816		(Purchased Reagent)		Sodium 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2)	47.9 ug/mL
.LC9CI-PF3ONS_00001	09/30/21	Wellington Labs, Lot 9CIPF3ONS0916			(Purchased Reagent)		9-Chlorohexadecafluoro-3-oxonane-1-sulfonate	46.6 ug/mL
.LCbr-NETFOSAA_00001	01/17/23	WELLINGTON, Lot brNETFOSAA0118			(Purchased Reagent)		N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
.LCbr-NMeFOSAA_00001	01/17/23	WELLINGTON, Lot brNMeFOSAA0118			(Purchased Reagent)		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
.LCDONA 00001	04/10/22	WELLINGTON, Lot NADONA0417			(Purchased Reagent)		Adona	50 ug/mL
.LCHFO-DA_00001	07/03/20	WELLINGTON, Lot HFFODA0717			(Purchased Reagent)		Perfluoro(2-propoxypropanoic) acid	50 ug/mL
.LCN-EtFOSA-M_00005	05/24/21	WELLINGTON, Lot NETFOSA0516M			(Purchased Reagent)		N-ethylperfluoro-1-octanesulfonamide	50 ug/mL
.LCN-MeFOSA-M_00004	05/24/21	WELLINGTON, Lot NMeFOSA0516M			(Purchased Reagent)		MeFOSA	50 ug/mL
.LCPFeA 00007	05/27/21	Wellington Laboratories, Lot PFBA0516			(Purchased Reagent)		Perfluorobutyric acid	50 ug/mL
.LCPFS_00008	03/15/21	Wellington Laboratories, Lot LPFBS0316			(Purchased Reagent)		Perfluorobutane Sulfonate	44.2 ug/mL
.LCPFDA 00007	05/31/21	Wellington Laboratories, Lot PFDA0516			(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
.LCPFDoA_00007	05/31/21	Wellington Laboratories, Lot PFDoA0516			(Purchased Reagent)		Perfluorodecanoic acid	50 ug/mL
.LCPFDSA 00002	05/24/21	Wellington Laboratories, Lot LPFDS0516			(Purchased Reagent)		Perfluorodecane Sulfonic acid	48.2 ug/mL
.LCPFHpA_00008	12/02/21	Wellington Laboratories, Lot PFHpA1216			(Purchased Reagent)		Perfluoroheptanoic acid (PFHpA)	50 ug/mL
.LCPFHpSA_00003	09/01/22	Wellington Laboratories, Lot LPFHpS0817			(Purchased Reagent)		Perfluoroheptanesulfonic acid	47.6 ug/mL
.LCPFHxA_00007	12/22/20	Wellington Laboratories, Lot PFHxA1215			(Purchased Reagent)		Perfluorohexanoic acid	50 ug/mL
.LCPFHxDA_00008	05/25/21	Wellington Laboratories, Lot PFHxDA0516			(Purchased Reagent)		Perfluorohexadecanoic acid	50 ug/mL
.LCPFHxS-br_00004	07/03/20	Wellington Laboratories, Lot brPFHxSK0615			(Purchased Reagent)		Perfluorohexane Sulfonate (PFHxS)	45.5 ug/mL
.LCPFNA 00009	07/20/22	Wellington Laboratories, Lot PFNA0717			(Purchased Reagent)		Perfluorononanoic acid (PFNA)	50 ug/mL
.LCPFNS 00003	09/27/22	Wellington Laboratories, Lot LPFNS0917			(Purchased Reagent)		Perfluorononanesulfonic acid	48 ug/mL
.LCPFOA 00008	08/02/21	Wellington Laboratories, Lot PFOA0716			(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	50 ug/mL
.LCPFODA 00008	04/29/21	Wellington Laboratories, Lot PFODA0416			(Purchased Reagent)		Perfluorooctadecanoic acid	50 ug/mL
.LCPFOS-br_00004	10/14/20	Wellington Laboratories, Lot brPFOSK1015			(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
.LCPFOSA 00010	09/30/21	Wellington Laboratories, Lot FOSA0916I			(Purchased Reagent)		Perfluorooctane Sulfonamide	50 ug/mL
.LCPFeA 00007	05/31/21	Wellington Laboratories, Lot PFPeA0516			(Purchased Reagent)		Perfluoropentanoic acid	50 ug/mL
.LCPFeS_00003	01/11/22	Wellington Laboratories, Lot LPFeS0117			(Purchased Reagent)		Perfluoropentanesulfonic acid	46.9 ug/mL
.LCPFeDA_00007	09/30/21	Wellington Laboratories, Lot PFTeDA0916			(Purchased Reagent)		Perfluorotetradecanoic acid	50 ug/mL
.LCPTrDA_00007	02/12/21	Wellington Laboratories, Lot PFTrDA0216			(Purchased Reagent)		Perfluorotridecanoic acid	50 ug/mL
.LCPFvDA_00007	10/18/21	Wellington Laboratories, Lot PFvDA1016			(Purchased Reagent)		Perfluoroundecanoic acid	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
8270Surrogate_00118	03/16/19	04/26/18	ACETONE, Lot Acetone_00211	1000 mL	8270SurStkHL_00258	5 mL	2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
							Terphenyl-di4 (Surr)	100 ug/mL
							2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
8270SurStkHL_00261	09/30/22		Restek, Lot A0130500		8270SurStkHL_00262	5 mL	2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
							Terphenyl-di4 (Surr)	100 ug/mL
							2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
8270SurStkHL_00263	09/30/22		Restek, Lot A0130500		8270SurStkHL_00263	5 mL	2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
							Terphenyl-di4 (Surr)	100 ug/mL
							2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
8270SurStkHL_00258	09/30/22		Restek, Lot A0130500		(Purchased Reagent)		2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-di4 (Surr)	5000 ug/mL
							2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
8270SurStkHL_00261	09/30/22		Restek, Lot A0130500		(Purchased Reagent)		2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-di4 (Surr)	5000 ug/mL
							2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.8270SurStkHL_00262	09/30/22		Restek, Lot A0130500		(Purchased Reagent)		Terphenyl-d14 (Surr)	5000 ug/mL
							2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
							2,4,6 - Tribromophenol	5000 ug/mL
.8270SurStkHL_00263	09/30/22		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
							1,4-Dichlorobenzene	50 ug/mL
							2,4,5-Trichlorophenol	50 ug/mL
							2,4,6-Trichlorophenol	50 ug/mL
8270TCCLPSpike_00058	12/22/18	03/27/18	P&T Methanol, Lot MethanolP&T_00196	100 mL	8270 TCCLP Stk_00075	4 mL	2,4,5-Trichlorophenol	50 ug/mL
							2,4,6-Trichlorophenol	50 ug/mL
							2,4-Dinitrotoluene	20 ug/mL
							2-Methylphenol	50 ug/mL
							3 & 4 Methylphenol	100 ug/mL
							3-Methylphenol	100 ug/mL
							4-Methylphenol	100 ug/mL
							Hexachlorobenzene	20 ug/mL
							Hexachlorobutadiene	50 ug/mL
							Hexachloroethane	50 ug/mL
	Nitrobenzene	50 ug/mL						
	Pentachlorophenol	100 ug/mL						
	Pyridine	50 ug/mL						
	8270 TCCLP Stk_00077					6 mL	1,4-Dichlorobenzene	50 ug/mL
							2,4,5-Trichlorophenol	50 ug/mL
							2,4,6-Trichlorophenol	50 ug/mL
							2,4-Dinitrotoluene	20 ug/mL
							2-Methylphenol	50 ug/mL
							3 & 4 Methylphenol	100 ug/mL
							3-Methylphenol	100 ug/mL
4-Methylphenol							100 ug/mL	
Hexachlorobenzene							20 ug/mL	
Hexachlorobutadiene							50 ug/mL	
Hexachloroethane	50 ug/mL							
Nitrobenzene	50 ug/mL							
Pentachlorophenol	100 ug/mL							
Pyridine	50 ug/mL							
.8270 TCCLP Stk_00075	03/20/19		Supelco, Lot LC26210V		(Purchased Reagent)		1,4-Dichlorobenzene	500 ug/mL
							2,4,5-Trichlorophenol	500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.8270 TCIP Stk_00077			Supelco, Lot LC26210V				2,4,6-Trichlorophenol	500 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2-Methylphenol	500 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	500 ug/mL
							Hexachloroethane	500 ug/mL
							Nitrobenzene	500 ug/mL
							Pentachlorophenol	1000 ug/mL
							Pyridine	500 ug/mL
							1,4-Dichlorobenzene	500 ug/mL
							2,4,5-Trichlorophenol	500 ug/mL
MS-DFTPP_00046							2,4,6-Trichlorophenol	500 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2-Methylphenol	500 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	500 ug/mL
							Hexachloroethane	500 ug/mL
							Nitrobenzene	500 ug/mL
							Pentachlorophenol	1000 ug/mL
							Pyridine	500 ug/mL
							Aramite, Total	
							Diallate	
							Isosafrole	
.MS-47548-U_00015			Supelco, Lot XA19099V				Methyl Phenols, Total	
							Phthalic acid	
							Tentatively Identified Compound	
							Total Cresols	
							TPAH	
							4,4'-DDD	0.05 ug/mL
							4,4'-DDE	0.05 ug/mL
							4,4'-DDT	50 ug/mL
							Benzidine_T	50 ug/mL
							DFTPP	50 ug/mL
							Pentachlorophenol_T	50 ug/mL
							4,4'-DDD	1 ug/mL
							4,4'-DDE	1 ug/mL
							4,4'-DDT	1000 ug/mL
							Benzidine_T	1000 ug/mL
							DFTPP	1000 ug/mL
							Pentachlorophenol_T	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
<b>MS-FAMSSV_100_00018</b>	06/22/18	02/08/18	Methylene Chloride, Lot 181545	0.5 mL	MS-IS_00013	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-IS_00013	06/22/18	06/22/17	Methylene Chloride, Lot 157164	250 mL	MS-567684_00019	50 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
<b>MS-HSLA004_00035</b>	06/22/18	04/03/18	Methylene Chloride, Lot 181545	0.5 mL	MS-HSLA_STK_00040	10 uL	2,4,6-Tribromophenol (Surr)	4 ug/mL
							2-Fluorobiphenyl	4 ug/mL
							2-Fluorophenol (Surr)	4 ug/mL
							Nitrobenzene-d5 (Surr)	4 ug/mL
							Phenol-d5 (Surr)	4 ug/mL
							Terphenyl-d14 (Surr)	4 ug/mL
							Famphur	4 ug/mL
							Alachlor	4 ug/mL
							3,3'-Dichlorobenzidine	4 ug/mL
							Benzoic acid	8 ug/mL
							Atrazine	4 ug/mL
							Caprolactam	4 ug/mL
							1,1'-Biphenyl	4 ug/mL
							1,2,4,5-Tetrachlorobenzene	4 ug/mL
							1,2,4-Trichlorobenzene	4 ug/mL
							1,2-Dichlorobenzene	4 ug/mL
							1,2-Diphenylhydrazine	4.0439 ug/mL
							1,3-Dichlorobenzene	4 ug/mL
							1,3-Dinitrobenzene	4 ug/mL
							1,4-Dichlorobenzene	4 ug/mL
							1,4-Dioxane	4 ug/mL
							1-Methylnaphthalene	4 ug/mL
							2,2'-oxybis[1-chloropropane]	4 ug/mL
							2,3,4,6-Tetrachlorophenol	4 ug/mL
							2,4,5-Trichlorophenol	4 ug/mL
							2,4,6-Trichlorophenol	4 ug/mL
							2,4-Dichlorophenol	4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dimethylphenol	4 ug/mL
							2,4-Dinitrophenol	8 ug/mL
							2,4-Dinitrotoluene	4 ug/mL
							2,6-Dichlorophenol	4 ug/mL
							2,6-Dinitrotoluene	4 ug/mL
							2-Chloronaphthalene	4 ug/mL
							2-Chlorophenol	4 ug/mL
							2-Methylnaphthalene	4 ug/mL
							2-Methylphenol	4 ug/mL
							2-Nitroaniline	4 ug/mL
							2-Nitrophenol	4 ug/mL
							3 & 4 Methylphenol	4 ug/mL
							3-Nitroaniline	4 ug/mL
							4,6-Dinitro-2-methylphenol	8 ug/mL
							4-Bromophenyl phenyl ether	4 ug/mL
							4-Chloro-3-methylphenol	4 ug/mL
							4-Chloroaniline	4 ug/mL
							4-Chlorophenyl phenyl ether	4 ug/mL
							4-Nitroaniline	4 ug/mL
							4-Nitrophenol	8 ug/mL
							Acenaphthene	4 ug/mL
							Acenaphthylene	4 ug/mL
							Acetophenone	4 ug/mL
							Aniline	4 ug/mL
							Anthracene	4 ug/mL
							Azobenzene	4 ug/mL
							Benzo[a]anthracene	4 ug/mL
							Benzo[a]pyrene	4 ug/mL
							Benzo[b]fluoranthene	4 ug/mL
							Benzo[g,h,i]perylene	4 ug/mL
							Benzo[k]fluoranthene	4 ug/mL
							Benzyl alcohol	4 ug/mL
							Bis (2-chloroethoxy)methane	4 ug/mL
							Bis (2-chloroethyl) ether	4 ug/mL
							Bis (2-ethylhexyl) phthalate	4 ug/mL
							Butyl benzyl phthalate	4 ug/mL
							Carbazole	4 ug/mL
							Chrysene	4 ug/mL
							Di-n-butyl phthalate	4 ug/mL
							Di-n-octyl phthalate	4 ug/mL
							Dibenz (a,h) anthracene	4 ug/mL
							Dibenzofuran	4 ug/mL
							Diethyl phthalate	4 ug/mL
							Dimethyl phthalate	4 ug/mL
							Diphenylamine	3.4 ug/mL
							Fluoranthene	4 ug/mL
							Fluorene	4 ug/mL
							Hexachlorobenzene	4 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-HSLA_STK_00040	06/30/18	01/30/18	Methylene Chloride, Lot 181545	10 mL	MS-IS_00013	50 uL	Hexachlorobutadiene	4 ug/mL
							Hexachlorocyclopentadiene	4 ug/mL
							Hexachloroethane	4 ug/mL
							Indeno[1,2,3-cd]pyrene	4 ug/mL
							Isophorone	4 ug/mL
							N-Nitrosodi-n-propylamine	4 ug/mL
							N-Nitrosodimethylamine	4 ug/mL
							N-Nitrosodiphenylamine	4 ug/mL
							Naphthalene	4 ug/mL
							Nitrobenzene	4 ug/mL
							Pentachlorophenol	8 ug/mL
							Phenanthrene	4 ug/mL
							Phenol	4 ug/mL
							Pyrene	4 ug/mL
							Pyridine	8 ug/mL
							1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00040	06/30/18	01/30/18	Methylene Chloride, Lot 181545	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
							Famphur	200 ug/mL
							MS-568023_00042	1 mL
							MS-568033_00026	0.5 mL
							MS-569730_HSL_00007	1 mL
							MS-569731_00070	2 mL
							MS-569732_HSL_00005	1 mL
							Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
							MS-571995_00001	2 mL
							1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
.MS-HSLA_STK_00040	06/30/18	01/30/18	Methylene Chloride, Lot 181545	10 mL	MS-567685_00004	0.4 mL	1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-567685_00004	01/30/19		Restek, Lot A0130500				Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-568023_00042	05/31/19		Restek, Lot A0127668				2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
							Famphur	2000 ug/mL
							Alachlor	4000 ug/mL
							3,3'-Dichlorobenzidine	2000 ug/mL
							Benzoic acid	2000 ug/mL
							Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
							1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
..MS-569730_HSL_00007	11/30/18		Restek, Lot A0127472				1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
..MS-571995_00001	09/30/18		Restek, Lot A0125805				1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4, 6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis (2-chloroethoxy)methane	1000 ug/mL
							Bis (2-chloroethyl) ether	1000 ug/mL
							Bis (2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-IS_00013		06/22/18	Methylene Chloride, Lot 157164	250 mL	MS-567684_00019	50 mL	N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
							1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
							1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
							2,4,6-Tribromophenol (Surr)	10 ug/mL
							2-Fluorobiphenyl	10 ug/mL
							2-Fluorophenol (Surr)	10 ug/mL
							Nitrobenzene-d5 (Surr)	10 ug/mL
MS-HSLA010_00035	06/22/18	04/03/18	Methylene Chloride, Lot 181545	0.5 mL	MS-HSLA_STK_00040	25 uL	Phenol-d5 (Surr)	10 ug/mL
							Terphenyl-d14 (Surr)	10 ug/mL
							Famphur	10 ug/mL
							Alachlor	10 ug/mL
							3,3'-Dichlorobenzidine	10 ug/mL
							Benzoic acid	20 ug/mL
							Atrazine	10 ug/mL
							Caprolactam	10 ug/mL
							1,1'-Biphenyl	10 ug/mL
							1,2,4,5-Tetrachlorobenzene	10 ug/mL
							1,2,4-Trichlorobenzene	10 ug/mL
							1,2-Dichlorobenzene	10 ug/mL
							1,2-Diphenylhydrazine	10.1097 ug/mL
							1,3-Dichlorobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							1,4-Dichlorobenzene	10 ug/mL
							1,4-Dioxane	10 ug/mL
							1-Methylnaphthalene	10 ug/mL
							2,2'-oxybis[1-chloropropane]	10 ug/mL
							2,3,4,6-Tetrachlorophenol	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4,5-Trichlorophenol	10 ug/mL
							2,4,6-Trichlorophenol	10 ug/mL
							2,4-Dichlorophenol	10 ug/mL
							2,4-Dimethylphenol	10 ug/mL
							2,4-Dinitrophenol	20 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							2,6-Dichlorophenol	10 ug/mL
							2,6-Dinitrotoluene	10 ug/mL
							2-Chloronaphthalene	10 ug/mL
							2-Chlorophenol	10 ug/mL
							2-Methylnaphthalene	10 ug/mL
							2-Methylphenol	10 ug/mL
							2-Nitroaniline	10 ug/mL
							2-Nitrophenol	10 ug/mL
							3 & 4 Methylphenol	10 ug/mL
							3-Nitroaniline	10 ug/mL
							4,6-Dinitro-2-methylphenol	20 ug/mL
							4-Bromophenyl phenyl ether	10 ug/mL
							4-Chloro-3-methylphenol	10 ug/mL
							4-Chloroaniline	10 ug/mL
							4-Chlorophenyl phenyl ether	10 ug/mL
							4-Nitroaniline	10 ug/mL
							4-Nitrophenol	20 ug/mL
							Acenaphthene	10 ug/mL
							Acenaphthylene	10 ug/mL
							Acetophenone	10 ug/mL
							Aniline	10 ug/mL
							Anthracene	10 ug/mL
							Azobenzene	10 ug/mL
							Benzo[a]anthracene	10 ug/mL
							Benzo[a]pyrene	10 ug/mL
							Benzo[b]fluoranthene	10 ug/mL
							Benzo[g,h,i]perylene	10 ug/mL
							Benzo[k]fluoranthene	10 ug/mL
							Benzyl alcohol	10 ug/mL
							Bis(2-chloroethoxy)methane	10 ug/mL
							Bis(2-chloroethyl) ether	10 ug/mL
							Bis(2-ethylhexyl) phthalate	10 ug/mL
							Butyl benzyl phthalate	10 ug/mL
							Carbazole	10 ug/mL
							Chrysene	10 ug/mL
							Di-n-butyl phthalate	10 ug/mL
							Di-n-octyl phthalate	10 ug/mL
							Dibenz(a,h)anthracene	10 ug/mL
							Dibenzofuran	10 ug/mL
							Diethyl phthalate	10 ug/mL
							Dimethyl phthalate	10 ug/mL
							Diphenylamine	8.5 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-HSLA_STK_00040	06/30/18	01/30/18	Methylene Chloride, Lot 181545	10 mL	MS-IS_00013	50 uL	Fluoranthene	10 ug/mL
							Fluorene	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Hexachlorobutadiene	10 ug/mL
							Hexachlorocyclopentadiene	10 ug/mL
							Hexachloroethane	10 ug/mL
							Indeno[1,2,3-cd]pyrene	10 ug/mL
							Isophorone	10 ug/mL
							N-Nitrosodi-n-propylamine	10 ug/mL
							N-Nitrosodimethylamine	10 ug/mL
					MS-567685_00004	0.4 mL	N-Nitrosodiphenylamine	10 ug/mL
							Naphthalene	10 ug/mL
							Nitrobenzene	10 ug/mL
							Pentachlorophenol	20 ug/mL
							Phenanthrene	10 ug/mL
							Phenol	10 ug/mL
							Pyrene	10 ug/mL
							Pyridine	20 ug/mL
							1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
.MS-HSLA_STK_00040	06/30/18	01/30/18	Methylene Chloride, Lot 181545	10 mL	MS-567685_00004	0.4 mL	Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
							2,4,6-Tribromophenol (Surr)	200 ug/mL
					MS-568023_00042 MS-568033_00026 MS-569730_HSL_00007 MS-569731_00070 MS-569732_HSL_00005 MS-571995_00001	1 mL 0.5 mL 1 mL 2 mL 1 mL 2 mL	2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
							Famphur	200 ug/mL
							Alachlor	200 ug/mL
							3,3'-Dichlorobenzidine	200 ug/mL
							Benzoic acid	400 ug/mL
							Atrazine	200 ug/mL
					MS-571995_00001	2 mL	Caprolactam	200 ug/mL
							1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis (2-chloroethoxy) methane	200 ug/mL
							Bis (2-chloroethyl) ether	200 ug/mL
							Bis (2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz (a,h) anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-567685_00004	01/30/19		Restek, Lot A0130500				Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
..MS-568023_00042	05/31/19	06/30/19	Restek, Lot A0127668				N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
..MS-568033_00026	11/30/18	06/30/18	Restek, Lot A0133057				2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
							Famphur	2000 ug/mL
							Alachlor	4000 ug/mL
							3,3'-Dichlorobenzidine	2000 ug/mL
							Benzoic acid	2000 ug/mL
							Atrazine	2000 ug/mL
..MS-569730_HSL_00007	06/30/18	11/30/18	Restek, Lot A0127472				Caprolactam	2000 ug/mL
							1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
..MS-569731_00070	06/30/18	11/30/18	Restek, Lot A0127580				1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
..MS-569732_HSL_00005	09/30/18	09/30/18	Restek, Lot A0125805					
..MS-571995_00001	09/30/18	09/30/18	Restek, Lot A0125805					

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis (2-chloroethoxy)methane	1000 ug/mL
							Bis (2-chloroethyl) ether	1000 ug/mL
							Bis (2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz (a,h) anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-IS_00013	06/22/18	06/22/17	Methylene Chloride, Lot 157164	250 mL	MS-567684_00019	50 mL	Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
							1,4-Dichlorobenzene-d4	400 ug/mL
.MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
							1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA020_00035	06/22/18	04/03/18	Methylene Chloride, Lot 181545	0.5 mL	MS-HSLA_STK_00040	50 uL	2,4,6-Tribromophenol (Surr)	20 ug/mL
							2-Fluorobiphenyl	20 ug/mL
							2-Fluorophenol (Surr)	20 ug/mL
							Nitrobenzene-d5 (Surr)	20 ug/mL
							Phenol-d5 (Surr)	20 ug/mL
							Terphenyl-d14 (Surr)	20 ug/mL
							Famphur	20 ug/mL
							Alachlor	20 ug/mL
							3,3'-Dichlorobenzidine	20 ug/mL
							Benzoic acid	40 ug/mL
							Atrazine	20 ug/mL
							Caprolactam	20 ug/mL
							1,1'-Biphenyl	20 ug/mL
							1,2,4,5-Tetrachlorobenzene	20 ug/mL
							1,2,4-Trichlorobenzene	20 ug/mL
							1,2-Dichlorobenzene	20 ug/mL
							1,2-Diphenylhydrazine	20.2195 ug/mL
							1,3-Dichlorobenzene	20 ug/mL
							1,3-Dinitrobenzene	20 ug/mL
							1,4-Dichlorobenzene	20 ug/mL
							1,4-Dioxane	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1-Methylnaphthalene	20 ug/mL
							2,2'-oxybis[1-chloropropane]	20 ug/mL
							2,3,4,6-Tetrachlorophenol	20 ug/mL
							2,4,5-Trichlorophenol	20 ug/mL
							2,4,6-Trichlorophenol	20 ug/mL
							2,4-Dichlorophenol	20 ug/mL
							2,4-Dimethylphenol	20 ug/mL
							2,4-Dinitrophenol	40 ug/mL
							2,4-Dinitrotoluene	20 ug/mL
							2,6-Dichlorophenol	20 ug/mL
							2,6-Dinitrotoluene	20 ug/mL
							2-Chloronaphthalene	20 ug/mL
							2-Chlorophenol	20 ug/mL
							2-Methylnaphthalene	20 ug/mL
							2-Methylphenol	20 ug/mL
							2-Nitroaniline	20 ug/mL
							2-Nitrophenol	20 ug/mL
							3 & 4 Methylphenol	20 ug/mL
							3-Nitroaniline	20 ug/mL
							4,6-Dinitro-2-methylphenol	40 ug/mL
							4-Bromophenyl phenyl ether	20 ug/mL
							4-Chloro-3-methylphenol	20 ug/mL
							4-Chloroaniline	20 ug/mL
							4-Chlorophenyl phenyl ether	20 ug/mL
							4-Nitroaniline	20 ug/mL
							4-Nitrophenol	40 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Acetophenone	20 ug/mL
							Aniline	20 ug/mL
							Anthracene	20 ug/mL
							Azobenzene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Benzyl alcohol	20 ug/mL
							Bis (2-chloroethoxy) methane	20 ug/mL
							Bis (2-chloroethyl) ether	20 ug/mL
							Bis (2-ethylhexyl) phthalate	20 ug/mL
							Butyl benzyl phthalate	20 ug/mL
							Carbazole	20 ug/mL
							Chrysene	20 ug/mL
							Di-n-butyl phthalate	20 ug/mL
							Di-n-octyl phthalate	20 ug/mL
							Dibenz (a,h) anthracene	20 ug/mL
							Dibenzofuran	20 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-HSLA_STK_00040	06/30/18	01/30/18	Methylene Chloride, Lot 181545	10 mL	MS-IS_00013	50 uL	Diethyl phthalate	20 ug/mL
							Dimethyl phthalate	20 ug/mL
							Diphenylamine	17 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Hexachlorobenzene	20 ug/mL
							Hexachlorobutadiene	20 ug/mL
							Hexachlorocyclopentadiene	20 ug/mL
							Hexachloroethane	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
					MS-567685_00004	0.4 mL	Isophorone	20 ug/mL
							N-Nitrosodi-n-propylamine	20 ug/mL
							N-Nitrosodimethylamine	20 ug/mL
							N-Nitrosodiphenylamine	20 ug/mL
							Naphthalene	20 ug/mL
							Nitrobenzene	20 ug/mL
							Pentachlorophenol	40 ug/mL
							Phenanthrene	20 ug/mL
							Phenol	20 ug/mL
							Pyrene	20 ug/mL
					MS-568023_00042	1 mL	Pyridine	40 ug/mL
							1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
							2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
.MS-HSLA_STK_00040	06/30/18	01/30/18	Methylene Chloride, Lot 181545	10 mL	MS-569730_HSL_00007	1 mL	Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
					MS-569731_00070	2 mL	Famphur	200 ug/mL
							Alachlor	200 ug/mL
							3,3'-Dichlorobenzidine	200 ug/mL
							Benzoic acid	400 ug/mL
					MS-569732_HSL_00005	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00001	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
.MS-HSLA_STK_00040	06/30/18	01/30/18	Methylene Chloride, Lot 181545	10 mL	MS-569731_00070	2 mL	1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl) ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
..MS-568023_00042	05/31/19	06/30/19	Restek, Lot A0127668		(Purchased Reagent)		Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
							Famphur	2000 ug/mL
							Alachlor	4000 ug/mL
							3,3'-Dichlorobenzidine	2000 ug/mL
							Benzoic acid	2000 ug/mL
							Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00001	09/30/18		Restek, Lot A0125805		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-IS_00013	06/22/18	06/22/17	Methylene Chloride, Lot 157164	250 mL	MS-567684_00019	50 mL	Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
							1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
							1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
							2,4,6-Tribromophenol (Surr)	50 ug/mL
							2-Fluorobiphenyl	50 ug/mL
							2-Fluorophenol (Surr)	50 ug/mL
							Nitrobenzene-d5 (Surr)	50 ug/mL
MS-HSLA050_00036	06/22/18	04/03/18	Methylene Chloride, Lot 181545	0.5 mL	MS-HSLA_STK_00040	125 uL	Phenol-d5 (Surr)	50 ug/mL
							Terphenyl-d14 (Surr)	50 ug/mL
							Famphur	50 ug/mL
							Alachlor	50 ug/mL
							3,3'-Dichlorobenzidine	50 ug/mL
							Benzoic acid	100 ug/mL
							Atrazine	50 ug/mL
							Caprolactam	50 ug/mL
							1,1'-Biphenyl	50 ug/mL
							1,2,4,5-Tetrachlorobenzene	50 ug/mL
							1,2,4-Trichlorobenzene	50 ug/mL
							1,2-Dichlorobenzene	50 ug/mL
							1,2-Diphenylhydrazine	50.5487 ug/mL
							1,3-Dichlorobenzene	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dinitrobenzene	50 ug/mL
							1,4-Dichlorobenzene	50 ug/mL
							1,4-Dioxane	50 ug/mL
							1-Methylnaphthalene	50 ug/mL
							2,2'-oxybis[1-chloropropane]	50 ug/mL
							2,3,4,6-Tetrachlorophenol	50 ug/mL
							2,4,5-Trichlorophenol	50 ug/mL
							2,4,6-Trichlorophenol	50 ug/mL
							2,4-Dichlorophenol	50 ug/mL
							2,4-Dimethylphenol	50 ug/mL
							2,4-Dinitrophenol	100 ug/mL
							2,4-Dinitrotoluene	50 ug/mL
							2,6-Dichlorophenol	50 ug/mL
							2,6-Dinitrotoluene	50 ug/mL
							2-Chloronaphthalene	50 ug/mL
							2-Chlorophenol	50 ug/mL
							2-Methylnaphthalene	50 ug/mL
							2-Methylphenol	50 ug/mL
							2-Nitroaniline	50 ug/mL
							2-Nitrophenol	50 ug/mL
							3 & 4 Methylphenol	50 ug/mL
							3-Nitroaniline	50 ug/mL
							4,6-Dinitro-2-methylphenol	100 ug/mL
							4-Bromophenyl phenyl ether	50 ug/mL
							4-Chloro-3-methylphenol	50 ug/mL
							4-Chloroaniline	50 ug/mL
							4-Chlorophenyl phenyl ether	50 ug/mL
							4-Nitroaniline	50 ug/mL
							4-Nitrophenol	100 ug/mL
							Acenaphthene	50 ug/mL
							Acenaphthylene	50 ug/mL
							Acetophenone	50 ug/mL
							Aniline	50 ug/mL
							Anthracene	50 ug/mL
							Azobenzene	50 ug/mL
							Benzo[a]anthracene	50 ug/mL
							Benzo[a]pyrene	50 ug/mL
							Benzo[b]fluoranthene	50 ug/mL
							Benzo[g,h,i]perylene	50 ug/mL
							Benzo[k]fluoranthene	50 ug/mL
							Benzyl alcohol	50 ug/mL
							Bis(2-chloroethoxy)methane	50 ug/mL
							Bis(2-chloroethyl)ether	50 ug/mL
							Bis(2-ethylhexyl) phthalate	50 ug/mL
							Butyl benzyl phthalate	50 ug/mL
							Carbazole	50 ug/mL
							Chrysene	50 ug/mL
							Di-n-butyl phthalate	50 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-HSLA_STK_00040	06/30/18	01/30/18	Methylene Chloride, Lot 181545	10 mL	MS-IS_00013	50 uL	Di-n-octyl phthalate	50 ug/mL
							Dibenz(a,h)anthracene	50 ug/mL
							Dibenzofuran	50 ug/mL
							Diethyl phthalate	50 ug/mL
							Dimethyl phthalate	50 ug/mL
							Diphenylamine	42.5 ug/mL
							Fluoranthene	50 ug/mL
							Fluorene	50 ug/mL
							Hexachlorobenzene	50 ug/mL
							Hexachlorobutadiene	50 ug/mL
					MS-567685_00004	0.4 mL	Hexachlorocyclopentadiene	50 ug/mL
							Hexachloroethane	50 ug/mL
							Indeno[1,2,3-cd]pyrene	50 ug/mL
							Isophorone	50 ug/mL
							N-Nitrosodi-n-propylamine	50 ug/mL
							N-Nitrosodimethylamine	50 ug/mL
							N-Nitrosodiphenylamine	50 ug/mL
							Naphthalene	50 ug/mL
							Nitrobenzene	50 ug/mL
							Pentachlorophenol	100 ug/mL
					MS-56732_HSL_00005	2 mL	Phenanthrene	50 ug/mL
							Phenol	50 ug/mL
							Pyrene	50 ug/mL
							Pyridine	100 ug/mL
							1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00040	06/30/18	01/30/18	Methylene Chloride, Lot 181545	10 mL	MS-568023_00042	1 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
					MS-568033_00026	0.5 mL	Terphenyl-d14 (Surr)	200 ug/mL
							Famphur	200 ug/mL
							Alachlor	200 ug/mL
							3,3'-Dichlorobenzidine	200 ug/mL
							Benzoic acid	200 ug/mL
					MS-571995_00001	2 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
							1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis (2-chloroethoxy) methane	200 ug/mL
							Bis (2-chloroethyl) ether	200 ug/mL
							Bis (2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-567685_00004							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz (a, h) anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500			(Purchased Reagent)	Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
..MS-568023_00042	05/31/19		Restek, Lot A0127668			(Purchased Reagent)	Terphenyl-d14 (Surr)	5000 ug/mL
							Famphur	2000 ug/mL
							Alachlor	4000 ug/mL
							3,3'-Dichlorobenzidine	2000 ug/mL
							Benzoic acid	2000 ug/mL
							Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
							1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
..MS-569730_HSL_00007	11/30/18		Restek, Lot A0127472			(Purchased Reagent)	1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
..MS-569731_00070	06/30/18		Restek, Lot A0123819			(Purchased Reagent)		
..MS-569732_HSL_00005	11/30/18		Restek, Lot A0127580			(Purchased Reagent)		
..MS-571995_00001	09/30/18		Restek, Lot A0125805			(Purchased Reagent)		

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis (2-chloroethoxy)methane	1000 ug/mL
							Bis (2-chloroethyl) ether	1000 ug/mL
							Bis (2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz (a,h) anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-IS_00013	06/22/18	06/22/17	Methylene Chloride, Lot 157164	250 mL	MS-567684_00019	50 mL	Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
							1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA080_00035	06/22/18	04/03/18	Methylene Chloride, Lot 181545	0.5 mL	MS-HSLA_snk_00040	200 uL	2,4,6-Tribromophenol (Surr)	80 ug/mL
							2-Fluorobiphenyl	80 ug/mL
							2-Fluorophenol (Surr)	80 ug/mL
							Nitrobenzene-d5 (Surr)	80 ug/mL
							Phenol-d5 (Surr)	80 ug/mL
							Terphenyl-d14 (Surr)	80 ug/mL
							Famphur	80 ug/mL
							Alachlor	80 ug/mL
							3,3'-Dichlorobenzidine	80 ug/mL
							Benzoic acid	160 ug/mL
							Atrazine	80 ug/mL
							Caprolactam	80 ug/mL
							1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-HSLA_STK_00040	06/30/18	01/30/18	Methylene Chloride, Lot 181545	10 mL	MS-IS_00013	50 uL	Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL
							Hexachloroethane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	160 ug/mL
							1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
							2,4,6-Tribromophenol (Surr)	200 ug/mL
					MS-567685_00004	0.4 mL	2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
							Famphur	200 ug/mL
							1 mL	200 ug/mL
							MS-568023_00042	200 ug/mL
							MS-568033_00026	200 ug/mL
							0.5 mL	200 ug/mL
					MS-569730_HSL_00007	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
							2 mL	200 ug/mL
							MS-569731_00070	400 ug/mL
							1 mL	200 ug/mL
							MS-569732_HSL_00005	200 ug/mL
					MS-571995_00001	2 mL	Caprolactam	200 ug/mL
							1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-567685_00004	01/30/19		Restek, Lot A0130500				Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
..MS-568023_00042	05/31/19		Restek, Lot A0127668				Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..MS-569731_00070	06/30/18		Restek, Lot A0127580				Famphur	2000 ug/mL
							Alachlor	4000 ug/mL
							3,3'-Dichlorobenzidine	2000 ug/mL
							Benzoic acid	2000 ug/mL
							Atrazine	2000 ug/mL
..MS-569732_HSL_00005	11/30/18		Restek, Lot A0127580				Caprolactam	2000 ug/mL
							1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
..MS-571995_00001	09/30/18		Restek, Lot A0125805				1,4-Dichlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-IS_00013		06/22/18	Methylene Chloride, Lot 157164	250 mL	MS-567684_00019	50 mL	Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..MS-567684_00019	06/22/18	06/22/17	Restek, Lot A0112833	250 mL	(Purchased Reagent)	50 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
							1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
							2,4,6-Tribromophenol (Surr)	120 ug/mL
							2-Fluorobiphenyl	120 ug/mL
							2-Fluorophenol (Surr)	120 ug/mL
MS-HSLA120_00035	06/22/18	04/03/18	Methylene Chloride, Lot 181545	0.5 mL	MS-HSLA_STK_00040	300 uL	Nitrobenzene-d5 (Surr)	120 ug/mL
							Phenol-d5 (Surr)	120 ug/mL
							Terphenyl-d14 (Surr)	120 ug/mL
							Famphur	120 ug/mL
							Alachlor	120 ug/mL
							3,3'-Dichlorobenzidine	120 ug/mL
							Benzoic acid	240 ug/mL
							Atrazine	120 ug/mL
							Caprolactam	120 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,1'-Biphenyl	120 ug/mL
							1,2,4,5-Tetrachlorobenzene	120 ug/mL
							1,2,4-Trichlorobenzene	120 ug/mL
							1,2-Dichlorobenzene	120 ug/mL
							1,2-Diphenylhydrazine	121.317 ug/mL
							1,3-Dichlorobenzene	120 ug/mL
							1,3-Dinitrobenzene	120 ug/mL
							1,4-Dichlorobenzene	120 ug/mL
							1,4-Dioxane	120 ug/mL
							1-Methylnaphthalene	120 ug/mL
							2,2'-oxybis[1-chloropropane]	120 ug/mL
							2,3,4,6-Tetrachlorophenol	120 ug/mL
							2,4,5-Trichlorophenol	120 ug/mL
							2,4,6-Trichlorophenol	120 ug/mL
							2,4-Dichlorophenol	120 ug/mL
							2,4-Dimethylphenol	120 ug/mL
							2,4-Dinitrophenol	240 ug/mL
							2,4-Dinitrotoluene	120 ug/mL
							2,6-Dichlorophenol	120 ug/mL
							2,6-Dinitrotoluene	120 ug/mL
							2-Chloronaphthalene	120 ug/mL
							2-Chlorophenol	120 ug/mL
							2-Methylnaphthalene	120 ug/mL
							2-Methylphenol	120 ug/mL
							2-Nitroaniline	120 ug/mL
							2-Nitrophenol	120 ug/mL
							3 & 4 Methylphenol	120 ug/mL
							3-Nitroaniline	120 ug/mL
							4,6-Dinitro-2-methylphenol	240 ug/mL
							4-Bromophenyl phenyl ether	120 ug/mL
							4-Chloro-3-methylphenol	120 ug/mL
							4-Chloroaniline	120 ug/mL
							4-Chlorophenyl phenyl ether	120 ug/mL
							4-Nitroaniline	120 ug/mL
							4-Nitrophenol	240 ug/mL
							Acenaphthene	120 ug/mL
							Acenaphthylene	120 ug/mL
							Acetophenone	120 ug/mL
							Aniline	120 ug/mL
							Anthracene	120 ug/mL
							Azobenzene	120 ug/mL
							Benzo[a]anthracene	120 ug/mL
							Benzo[a]pyrene	120 ug/mL
							Benzo[b]fluoranthene	120 ug/mL
							Benzo[g,h,i]perylene	120 ug/mL
							Benzo[k]fluoranthene	120 ug/mL
							Benzyl alcohol	120 ug/mL
							Bis(2-chloroethoxy)methane	120 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bis (2-chloroethyl) ether	120 ug/mL
							Bis (2-ethylhexyl) phthalate	120 ug/mL
							Butyl benzyl phthalate	120 ug/mL
							Carbazole	120 ug/mL
							Chrysene	120 ug/mL
							Di-n-butyl phthalate	120 ug/mL
							Di-n-octyl phthalate	120 ug/mL
							Dibenz(a,h)anthracene	120 ug/mL
							Dibenzofuran	120 ug/mL
							Diethyl phthalate	120 ug/mL
							Dimethyl phthalate	120 ug/mL
							Diphenylamine	102 ug/mL
							Fluoranthene	120 ug/mL
							Fluorene	120 ug/mL
							Hexachlorobenzene	120 ug/mL
							Hexachlorobutadiene	120 ug/mL
							Hexachlorocyclopentadiene	120 ug/mL
							Hexachloroethane	120 ug/mL
							Indeno[1,2,3-cd]pyrene	120 ug/mL
							Isophorone	120 ug/mL
							N-Nitrosodi-n-propylamine	120 ug/mL
							N-Nitrosodimethylamine	120 ug/mL
							N-Nitrosodiphenylamine	120 ug/mL
							Naphthalene	120 ug/mL
							Nitrobenzene	120 ug/mL
							Pentachlorophenol	240 ug/mL
							Phenanthrene	120 ug/mL
							Phenol	120 ug/mL
							Pyrene	120 ug/mL
							Pyridine	240 ug/mL
						MS-IS_00013	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
						MS-567685_00004	Phenanthrene-d10	40 ug/mL
							2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
						MS-568023_00042 MS-568033_00026 MS-569730_HSL_00007 MS-569731_00070 MS-569732_HSL_00005	Famphur	200 ug/mL
							Alachlor	200 ug/mL
							3,3'-Dichlorobenzidine	200 ug/mL
							Benzoic acid	400 ug/mL
							Atrazine	200 ug/mL
.MS-HSLA_STK_00040	06/30/18	01/30/18	Methylene Chloride, Lot 181545	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MS-571995_00001	2 mL	Caprolactam	200 ug/mL
							1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-567685_00004	01/30/19		Restek, Lot A0130500			(Purchased Reagent)	Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
Isophorone	200 ug/mL							
N-Nitrosodi-n-propylamine	200 ug/mL							
N-Nitrosodimethylamine	200 ug/mL							
N-Nitrosodiphenylamine	200 ug/mL							
Naphthalene	200 ug/mL							
Nitrobenzene	200 ug/mL							
Pentachlorophenol	400 ug/mL							
Phenanthrene	200 ug/mL							
Phenol	200 ug/mL							
Pyrene	200 ug/mL							
Pyridine	400 ug/mL							
2,4,6-Tribromophenol (Surr)	5000 ug/mL							
2-Fluorobiphenyl	5000 ug/mL							
2-Fluorophenol (Surr)	5000 ug/mL							
Nitrobenzene-d5 (Surr)	5000 ug/mL							
Phenol-d5 (Surr)	5000 ug/mL							
Terphenyl-d14 (Surr)	5000 ug/mL							
Famphur	2000 ug/mL							
Alachlor	4000 ug/mL							
3,3'-Dichlorobenzidine	2000 ug/mL							
Benzoic acid	2000 ug/mL							
Atrazine	2000 ug/mL							
Caprolactam	2000 ug/mL							
1,1'-Biphenyl	1000 ug/mL							
1,2,4,5-Tetrachlorobenzene	1000 ug/mL							
1,2,4-Trichlorobenzene	1000 ug/mL							
1,2-Dichlorobenzene	1000 ug/mL							
1,2-Diphenylhydrazine	1010.97 ug/mL							

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis (2-chloroethoxy) methane	1000 ug/mL
							Bis (2-chloroethyl) ether	1000 ug/mL
							Bis (2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-IS_00013	06/22/18	06/22/17	Methylene Chloride, Lot 157164	250 mL	MS-567684_00019	50 mL	Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz (a, h) anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
.MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
							1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
							1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
MS-HSLA160_00035	06/22/18	04/03/18	Methylene Chloride, Lot 181545	0.5 mL	MS-HSLA_STK_00040	400 uL	2,4,6-Tribromophenol (Surr)	160 ug/mL
							2-Fluorobiphenyl	160 ug/mL
							2-Fluorophenol (Surr)	160 ug/mL
							Nitrobenzene-d5 (Surr)	160 ug/mL
							Phenol-d5 (Surr)	160 ug/mL
							Terphenyl-d14 (Surr)	160 ug/mL
							Famphur	160 ug/mL
							Alachlor	160 ug/mL
							3,3'-Dichlorobenzidine	160 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzoic acid	320 ug/mL
							Atrazine	160 ug/mL
							Caprolactam	160 ug/mL
							1,1'-Biphenyl	160 ug/mL
							1,2,4,5-Tetrachlorobenzene	160 ug/mL
							1,2,4-Trichlorobenzene	160 ug/mL
							1,2-Dichlorobenzene	160 ug/mL
							1,2-Diphenylhydrazine	161.756 ug/mL
							1,3-Dichlorobenzene	160 ug/mL
							1,3-Dinitrobenzene	160 ug/mL
							1,4-Dichlorobenzene	160 ug/mL
							1,4-Dioxane	160 ug/mL
							1-Methylnaphthalene	160 ug/mL
							2,2'-oxybis[1-chloropropane]	160 ug/mL
							2,3,4,6-Tetrachlorophenol	160 ug/mL
							2,4,5-Trichlorophenol	160 ug/mL
							2,4,6-Trichlorophenol	160 ug/mL
							2,4-Dichlorophenol	160 ug/mL
							2,4-Dimethylphenol	160 ug/mL
							2,4-Dinitrophenol	320 ug/mL
							2,4-Dinitrotoluene	160 ug/mL
							2,6-Dichlorophenol	160 ug/mL
							2,6-Dinitrotoluene	160 ug/mL
							2-Chloronaphthalene	160 ug/mL
							2-Chlorophenol	160 ug/mL
							2-Methylnaphthalene	160 ug/mL
							2-Methylphenol	160 ug/mL
							2-Nitroaniline	160 ug/mL
							2-Nitrophenol	160 ug/mL
							3 & 4 Methylphenol	160 ug/mL
							3-Nitroaniline	160 ug/mL
							4,6-Dinitro-2-methylphenol	320 ug/mL
							4-Bromophenyl phenyl ether	160 ug/mL
							4-Chloro-3-methylphenol	160 ug/mL
							4-Chloroaniline	160 ug/mL
							4-Chlorophenyl phenyl ether	160 ug/mL
							4-Nitroaniline	160 ug/mL
							4-Nitrophenol	320 ug/mL
							Acenaphthene	160 ug/mL
							Acenaphthylene	160 ug/mL
							Acetophenone	160 ug/mL
							Aniline	160 ug/mL
							Anthracene	160 ug/mL
							Azobenzene	160 ug/mL
							Benzo[a]anthracene	160 ug/mL
							Benzo[a]pyrene	160 ug/mL
							Benzo[b]fluoranthene	160 ug/mL
							Benzo[g,h,i]perylene	160 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[k]fluoranthene	160 ug/mL
							Benzo[a]anthracene	160 ug/mL
							Bis(2-chloroethoxy)methane	160 ug/mL
							Bis(2-chloroethyl)ether	160 ug/mL
							Bis(2-ethylhexyl) phthalate	160 ug/mL
							Butyl benzyl phthalate	160 ug/mL
							Carbazole	160 ug/mL
							Chrysene	160 ug/mL
							Di-n-butyl phthalate	160 ug/mL
							Di-n-octyl phthalate	160 ug/mL
							Dibenz(a,h)anthracene	160 ug/mL
							Dibenzofuran	160 ug/mL
							Diethyl phthalate	160 ug/mL
							Dimethyl phthalate	160 ug/mL
							Diphenylamine	136 ug/mL
							Fluoranthene	160 ug/mL
							Fluorene	160 ug/mL
							Hexachlorobenzene	160 ug/mL
							Hexachlorobutadiene	160 ug/mL
							Hexachlorocyclopentadiene	160 ug/mL
							Hexachloroethane	160 ug/mL
							Indeno[1,2,3-cd]pyrene	160 ug/mL
							Isophorone	160 ug/mL
							N-Nitrosodi-n-propylamine	160 ug/mL
							N-Nitrosodimethylamine	160 ug/mL
							N-Nitrosodiphenylamine	160 ug/mL
							Naphthalene	160 ug/mL
							Nitrobenzene	160 ug/mL
							Pentachlorophenol	320 ug/mL
							Phenanthrene	160 ug/mL
							Phenol	160 ug/mL
							Pyrene	160 ug/mL
							Pyridine	320 ug/mL
							1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00040	06/30/18	01/30/18	Methylene Chloride, Lot 181545	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
							Famphur	200 ug/mL
							Alachlor	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MS-569730 HSL_00007	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00070	2 mL	Benzoic acid	400 ug/mL
					MS-569732 HSL_00005	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00001	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-567685_00004	01/30/19		Restek, Lot A0130500				Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl) ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
..MS-567685_00005			Restek, Lot A0127580				Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..MS-568023_00042	05/31/19	06/30/19	Restek, Lot A0127668				Famphur	2000 ug/mL
							Alachlor	4000 ug/mL
							3,3'-Dichlorobenzidine	2000 ug/mL
							Benzoic acid	2000 ug/mL
							Atrazine	2000 ug/mL
..MS-571995_00001	09/30/18		Restek, Lot A0125805				Caprolactam	2000 ug/mL
							1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-IS_00013	06/22/18	06/22/17	Methylene Chloride, Lot 157164	250 mL	MS-567684_00019	50 mL	Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
..MS-567684_00019	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
							1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
MS-HSLA200_00035	06/22/18	04/03/18	Methylene Chloride, Lot 181545	0.5 mL	MS-HSLA_STK_00040	500 uL	Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
							1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
							2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
MS-HSLA200_00035	06/22/18	04/03/18	Methylene Chloride, Lot 181545	0.5 mL	MS-HSLA_STK_00040	500 uL	2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
MS-HSLA200_00035	06/22/18	04/03/18	Methylene Chloride, Lot 181545	0.5 mL	MS-HSLA_STK_00040	500 uL	Terphenyl-d14 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Famphur	200 ug/mL
							Alachlor	200 ug/mL
							3,3'-Dichlorobenzidine	200 ug/mL
							Benzoic acid	400 ug/mL
							Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
							1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
					MS-IS_00013	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00040	06/30/18	01/30/18	Methylene Chloride, Lot 181545	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MS-568023_00042	1 mL	Terphenyl-d14 (Surr)	200 ug/mL
					MS-568033_00026	0.5 mL	Famphur	200 ug/mL
					MS-569730_HSL_00007	1 mL	Alachlor	200 ug/mL
					MS-569731_00070	2 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569732_HSL_00005	1 mL	Benzoic acid	400 ug/mL
					MS-571995_00001	2 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
							1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropanol]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	200 ug/mL
							4-Bromophenyl phenyl ether	400 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-567685_00004	01/30/19		Restek, Lot A0130500				Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis (2-chloroethoxy)methane	200 ug/mL
							Bis (2-chloroethyl) ether	200 ug/mL
							Bis (2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz (a,h) anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500			(Purchased Reagent)	Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno [1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
..MS-568023_00042	05/31/19		Restek, Lot A0127668			(Purchased Reagent)	Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
							Famphur	2000 ug/mL
							Alachlor	4000 ug/mL
..MS-569730 HSL 00007	11/30/18		Restek, Lot A0127472			(Purchased Reagent)	3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731 00070	06/30/18		Restek, Lot A0123819			(Purchased Reagent)	Benzoic acid	2000 ug/mL
..MS-569732 HSL_00005	11/30/18		Restek, Lot A0127580			(Purchased Reagent)	Atrazine	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-571995_00001	09/30/18		Restek, Lot A0125805		(Purchased Reagent)		Caprolactam	2000 ug/mL
							1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-IS_00013	06/22/18	06/22/17	Methylene Chloride, Lot 157164	250 mL	MS-567684_00019	50 mL	Bis (2-chloroethoxy)methane	1000 ug/mL
							Bis (2-chloroethyl) ether	1000 ug/mL
							Bis (2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz (a,h) anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno [1,2,3-cd] pyrene	1000 ug/mL
.MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
							1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
MS-HSLACCV080_00154	06/22/18	04/03/18	Methylene Chloride, Lot 181545	0.5 mL	MS-IS_00013	50 uL	Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
							1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
MS-HSLACCV080_00154	06/22/18	04/03/18	Methylene Chloride, Lot 181545	0.5 mL	MS-IS_00013	50 uL	Phenanthrene-d10	2000 ug/mL
							1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-IS_00013	06/22/18	06/22/17	Methylene Chloride, Lot 157164	250 mL	MS-567684_00019	50 mL	Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
							1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
.MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
							1,4-Dichlorobenzene-d4	2000 ug/mL
<b>MS-HSLACCV080_00154</b>	06/22/18	04/03/18	Methylene Chloride, Lot 181545	0.5 mL	MS-HSLA_STK_00040	200 uL	Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
							2,4,6-Tribromophenol (Surr)	80 ug/mL
							2-Fluorobiphenyl	80 ug/mL
							2-Fluorophenol (Surr)	80 ug/mL
							Nitrobenzene-d5 (Surr)	80 ug/mL
							Phenol-d5 (Surr)	80 ug/mL
							Terphenyl-d14 (Surr)	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
.MS-HSLA_STK_00040	06/30/18	01/30/18	Methylene Chloride, Lot 181545	10 mL	MS-567685_00004	0.4 mL	2-Methylphenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachloroethane	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Pyridine	160 ug/mL
							2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
.MS-571995_00001						2 mL	2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2-Methylphenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Pyridine	400 ug/mL
..MS-571995_00001	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
MS-HSLB1B3SSV_00046	06/22/18	04/03/18	Methylene Chloride, Lot 181545	0.5 mL	MS-IS_00013	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
							1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
							1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
..MS-567684_00019	06/22/18	06/22/17	Methylene Chloride, Lot 157164	250 mL	MS-567684_00019	50 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLB1B3SSV_00046	06/22/18	04/03/18	Methylene Chloride, Lot 181545	0.5 mL	MS-HSLB1_STK_00010	250 uL	1,4-Dichlorobenzene	100 ug/mL
							2,4,5-Trichlorophenol	100 ug/mL
							2,4,6-Trichlorophenol	100 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-HSLB1_STK_00010	06/30/18	03/06/18	Methylene Chloride, Lot 181545	10 mL	MS-571995.SEC_00001	2 mL	2,4-Dinitrotoluene	100 ug/mL
							2-Methylphenol	100 ug/mL
							3 & 4 Methylphenol	100 ug/mL
							Hexachlorobenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Hexachloroethane	100 ug/mL
							Nitrobenzene	100 ug/mL
							Pentachlorophenol	200 ug/mL
							Pyridine	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2-Methylphenol	200 ug/mL
.MS-571995.SEC_00001	07/31/18		Restek, Lot A0124300		(Purchased Reagent)		3 & 4 Methylphenol	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Pyridine	400 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
MS-HSLB2SSV_00043	06/02/18	04/03/18	Methylene Chloride, Lot 157164	0.5 mL	MS-IS_00013	50 uL	Hexachlorobutadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Pyridine	2000 ug/mL
							1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
							1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
.MS-IS_00013	06/22/18	06/22/17	Methylene Chloride, Lot 157164	250 mL	MS-567684_00019	50 mL	Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
							1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration						
					Reagent ID	Volume Added								
..MS-567684_00019	07/31/20		Restek, Lot A0112833	250 mL	(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL						
							Acenaphthene-d10	2000 ug/mL						
							Chrysene-d12	2000 ug/mL						
							Naphthalene-d8	2000 ug/mL						
							Perylene-d12	2000 ug/mL						
MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL						
							Acenaphthene-d10	400 ug/mL						
							Chrysene-d12	400 ug/mL						
							Naphthalene-d8	400 ug/mL						
							Perylene-d12	400 ug/mL						
							Phenanthrene-d10	400 ug/mL						
						MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL					
								Acenaphthene-d10	400 ug/mL					
								Chrysene-d12	400 ug/mL					
								Naphthalene-d8	400 ug/mL					
								Perylene-d12	400 ug/mL					
								Phenanthrene-d10	400 ug/mL					
.MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL						
							Acenaphthene-d10	2000 ug/mL						
							Chrysene-d12	2000 ug/mL						
							Naphthalene-d8	2000 ug/mL						
							Perylene-d12	2000 ug/mL						
.MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL						
							Acenaphthene-d10	2000 ug/mL						
							Chrysene-d12	2000 ug/mL						
							Naphthalene-d8	2000 ug/mL						
							Perylene-d12	2000 ug/mL						
MV-2cleve+AVA_00034	05/31/18	03/25/18	P&T Methanol, Lot 177891	10 mL	MV-568720_00020	202.5 uL	Acrolein	399.938 ug/mL						
							MV-569723_00003	160 uL	2-Chloroethyl vinyl ether	40 ug/mL				
							MV-569724_00014	160 uL	Vinyl acetate	80 ug/mL				
	.MV-568720_00020	05/31/18		RESTEK, Lot A0132611		(Purchased Reagent)		Acrolein	19750 ug/mL					
								.MV-569723_00003	01/31/20		RESTEK, Lot A0123891		2-Chloroethyl vinyl ether	2500 ug/mL
													.MV-569724_00014	07/31/18
	MV-2cleve+AVA_00035	05/31/18	05/07/18	P&T Methanol, Lot 177891	10 mL	MV-568720_00020	202.5 uL	Acrolein	399.938 ug/mL					
								.MV-568720_00020	05/31/18		RESTEK, Lot A0132611		Vinyl acetate	80 ug/mL
													.MV-569724_00014	07/31/18
	MV-568718-D_00008	03/31/21		RESTEK, Lot A0118105		(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL					
								Chlorobenzene-d5	250 ug/mL					
								Fluorobenzene	250 ug/mL					
							TBA-d9 (IS)	5000 ug/mL						

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
<b>MV-568718-D_00014</b>	05/31/22	12/21/17	RESTEK, Lot A0127975	100 mL	(Purchased Reagent)	10 mL	1,4-Dichlorobenzene-d4 Chlorobenzene-d5 Fluorobenzene TBA-d9 (IS)	250 ug/mL 250 ug/mL 250 ug/mL 5000 ug/mL
<b>MV-ARCH SS A_00090</b>	06/21/18	12/21/17	P&T Methanol, Lot 177891	100 mL	MV-567650_00027	10 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
							1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
<b>MV-ARCH SS A_00096</b>	11/12/18	05/12/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	Dibromofluoromethane (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
							1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
							1,2-Dichloroethane, Total	
							1,2-Dichloroethene, Total (URS)	
							1,3-Dichloropropene, Total	
<b>MV-BFB_00025</b>							TAH	
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
							Xylenes, Total (URS)	
							BFB	50 ug/mL
							BFB	2000 ug/mL
							2-Butanone (MEK)	160 ug/mL
							2-Hexanone	160 ug/mL
<b>MV-Gas/Ket A_00071</b>	09/04/18	03/04/18	P&T Methanol, Lot 177891	10 mL	MV-569721_00004	128 uL	4-Methyl-2-pentanone (MIBK)	160 ug/mL
							Acetone	160 ug/mL
							Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Dichlorofluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
							Vinyl chloride	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MV-569721_00004	01/31/20		RESTEK, Lot A0123890		MV-569727_00006 (Purchased Reagent)	640 uL	Cyclohexanone	1600 ug/mL
							2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
.MV-569722_00006	01/31/20		RESTEK, Lot A0124278		(Purchased Reagent)		Acetone	12500 ug/mL
							Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
.MV-569727_00006 <b>MV-Gas/Ket A_00073</b>	03/31/19	05/07/18	RESTEK, Lot A0118487	10 mL	(Purchased Reagent)		Vinyl chloride	2500 ug/mL
							Cyclohexanone	1600 ug/mL
							2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	160 ug/mL
							4-Methyl-2-pentanone (MIBK)	160 ug/mL
							Acetone	160 ug/mL
							Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Dichlorofluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MV-569721_00004	01/31/20		RESTEK, Lot A0123890		(Purchased Reagent)	640 uL	Cyclohexanone	1600 ug/mL
							2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
							Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
.MV-569722_00006	01/31/20		RESTEK, Lot A0124278		(Purchased Reagent)		Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
							Cyclohexanone	25000 ug/mL
							2-Butanone (MEK)	160 ug/mL
.MV-569727_00006 <b>MV-Gas/Ket B_00041</b>	08/25/18	02/25/18	RESTEK, Lot A0118487	10 mL	(Purchased Reagent)	128 uL	2-Butanone (MEK)	160 ug/mL
							Vinyl chloride	40 ug/mL
							2-Butanone (MEK)	12500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-569721.sec_00005 .MV-569722.sec_00004 <b>MV-Gas/Ket B_00042</b>	01/31/20	01/31/20	RESTEK, Lot A0113880		(Purchased Reagent)	128 uL	2-Butanone (MEK)	160 ug/mL
							Vinyl chloride	40 ug/mL
							2-Butanone (MEK)	12500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-569721.sec_00005	01/31/20	04/21/18	RESTEK, Lot A0113880	10 mL	(Purchased Reagent)	160 uL	2-Butanone (MEK)	160 ug/mL
							Vinyl chloride	40 ug/mL
.MV-569721.sec_00005	01/31/20		RESTEK, Lot A0113880		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							Vinyl chloride	12500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MV-569722.sec.00004	01/31/20	04/27/18	RESTEK, Lot A0124116	20 mL	(Purchased Reagent)		Vinyl chloride	2500 ug/mL
MV-Main A_00036	06/30/18	04/27/18	P&T Methanol, Lot 177891	20 mL	MV-571992_00001	320 uL	1,1,1,2-Tetrachloroethane	40 ug/mL
							1,1,1-Trichloroethane	40 ug/mL
							1,1,2,2-Tetrachloroethane	40 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	40 ug/mL
							1,1,2-Trichloroethane	40 ug/mL
							1,1-Dichloroethane	40 ug/mL
							1,1-Dichloropropene	40 ug/mL
							1,2,3-Trichlorobenzene	40 ug/mL
							1,2,3-Trichloropropene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2,4-Trimethylbenzene	40 ug/mL
							1,2-Dibromo-3-Chloropropene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Dichloroethane	40 ug/mL
							1,2-Dichloropropene	40 ug/mL
							1,3,5-Trimethylbenzene	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dichloropropene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	800 ug/mL
							2,2-Dichloropropene	40 ug/mL
							2-Chlorotoluene	40 ug/mL
							2-Methyl-2-propanol	400 ug/mL
							3-Chloro-1-propene	40 ug/mL
							4-Chlorotoluene	40 ug/mL
							4-Isopropyltoluene	40 ug/mL
							Acrylonitrile	400 ug/mL
							Benzene	40 ug/mL
							Bromobenzene	40 ug/mL
							Bromoform	40 ug/mL
							Carbon disulfide	40 ug/mL
							Carbon tetrachloride	40 ug/mL
							Chlorobenzene	40 ug/mL
							Chlorobromomethane	40 ug/mL
							Chlorodibromomethane	40 ug/mL
							Chloroform	40 ug/mL
							cis-1,2-Dichloroethene	40 ug/mL
							cis-1,3-Dichloropropene	40 ug/mL
							Cyclohexane	40 ug/mL
							Dibromomethane	40 ug/mL
							Dichlorobromomethane	40 ug/mL
							Ethyl ether	40 ug/mL
							Ethyl methacrylate	40 ug/mL
							Ethylbenzene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MV-571992_00001	12/31/18		RESTEK, Lot A0123711		MV-CUS17739_00002	800 uL	Ethylene Dibromide	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexane	40 ug/mL
							Iodomethane	40 ug/mL
							Isobutyl alcohol	1000 ug/mL
							Isopropylbenzene	40 ug/mL
							m-Xylene & p-Xylene	40 ug/mL
							Methyl acetate	80 ug/mL
							Methyl tert-butyl ether	40 ug/mL
							Methylcyclohexane	40 ug/mL
							Methylene Chloride	40 ug/mL
							n-Butylbenzene	40 ug/mL
							N-Propylbenzene	40 ug/mL
							Naphthalene	40 ug/mL
							o-Xylene	40 ug/mL
							sec-Butylbenzene	40 ug/mL
							Styrene	40 ug/mL
							tert-Butylbenzene	40 ug/mL
							Tetrachloroethene	40 ug/mL
							Tetrahydrofuran	80 ug/mL
							Toluene	40 ug/mL
							trans-1,2-Dichloroethene	40 ug/mL
							trans-1,3-Dichloropropene	40 ug/mL
							trans-1,4-Dichloro-2-butene	40 ug/mL
							Trichloroethene	40 ug/mL
							1-Chlorohexane	40 ug/mL
							2-Pentanone	160 ug/mL
							sec-Butyl Alcohol	1200 ug/mL
							1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropene	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropene	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropene	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropene	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Ethylene Dibromide	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver      Job No.: 320-39023-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MV-CUS17739_00002	07/31/19		Ultra, Lot CR-2819		(Purchased Reagent)		trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							1-Chlorohexane	1000 ug/mL
							2-Pentanone	4000 ug/mL
MV-Main B_00020	07/25/18	01/25/18	P&T Methanol, Lot 127999	20 mL	MV-569720.sec_00002	320 uL	sec-Butyl Alcohol	30000 ug/mL
							1,1-Dichloroethene	40 ug/mL
							1,2-Dichloroethane	40 ug/mL
							Benzene	40 ug/mL
							Carbon tetrachloride	40 ug/mL
							Chlorobenzene	40 ug/mL
							Chloroform	40 ug/mL
							Tetrachloroethene	40 ug/mL
							Trichloroethene	40 ug/mL
							1,1-Dichloroethene	2500 ug/mL
.MV-569720.sec_00002	07/31/18		RESTEK, Lot A0120604		(Purchased Reagent)		1,2-Dichloroethane	2500 ug/mL
							Benzene	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							Benzene	2500 ug/mL
MV-Main B_00021	07/31/18	05/14/18	P&T Methanol, Lot 127999	20 mL	MV-569720.sec_00002	320 uL	1,1-Dichloroethene	40 ug/mL
							1,2-Dichloroethane	40 ug/mL
							Benzene	40 ug/mL
							Carbon tetrachloride	40 ug/mL
							Chlorobenzene	40 ug/mL
							Chloroform	40 ug/mL
							Tetrachloroethene	40 ug/mL
							Trichloroethene	40 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
.MV-569720.sec_00002	07/31/18		RESTEK, Lot A0120604		(Purchased Reagent)		Benzene	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							1,2,3-Trimethylbenzene	40 ug/mL
							2-Chloro-1,3-butadiene	40 ug/mL
							2-Nitropropane	80 ug/mL
							Isopropyl alcohol	400 ug/mL
MV-Supp A_00029	06/30/18	03/04/18	P&T Methanol, Lot 12799	10 mL	mv-570808_00003	160 uL	Methacrylonitrile	400 ug/mL
							n-Butanol	1000 ug/mL
							Ethyl acetate	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 320-39023-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.mv-570808_00003					mv-571993_00001	160 uL	Methyl methacrylate	80 ug/mL
							Acetonitrile	400 ug/mL
							Isopropyl ether	40 ug/mL
							Propionitrile	400 ug/mL
							Tert-amyl methyl ether	40 ug/mL
.mv-570809_00003	06/30/18				mv-571994_00001	240 uL	Tert-butyl methyl ether	40 ug/mL
							Ethanol	2400 ug/mL
					mv-VO-TAOH-5_00004	800 uL	cis-1,4-Dichloro-2-butene	80 ug/mL
					(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
.mv-571993_00001							2-Nitropropane	5000 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
							Ethyl acetate	5000 ug/mL
.mv-571994_00001	06/30/20				(Purchased Reagent)		Methyl methacrylate	5000 ug/mL
							Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
.mv-VO-TAOH-5_00004	08/19/18						Tert-butyl methyl ether	2500 ug/mL
							Ethanol	100000 ug/mL
							cis-1,4-Dichloro-2-butene	1000 ug/mL

Reagent

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**LC11CIPF3OUds\_00001**

n: 9/5/17 sw

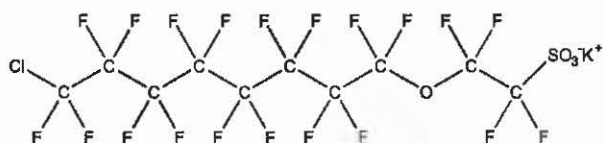


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** 11CI-PF3OUdS **LOT NUMBER:** 11CIPF3OUdS0916  
**COMPOUND:** Potassium 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate

**STRUCTURE:** **CAS #:** 83329-89-9



**MOLECULAR FORMULA:**  $C_{10}F_{20}ClSO_4K$  **MOLECULAR WEIGHT:** 670.69  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/ml}$  (K Salt) **SOLVENT(S):** Methanol  
 $47.1 \pm 2.4 \mu\text{g/ml}$  (11CI-PF3OUdS anion)  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 09/30/2016  
**EXPIRY DATE:** (mm/dd/yyyy) 09/30/2021  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)  
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- This compound is a minor component of the commercial formulation known as F-53B.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:

B.G. Chittim

Date: 10/19/2016  
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HAZARDS:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of  $\pm 5\%$  (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

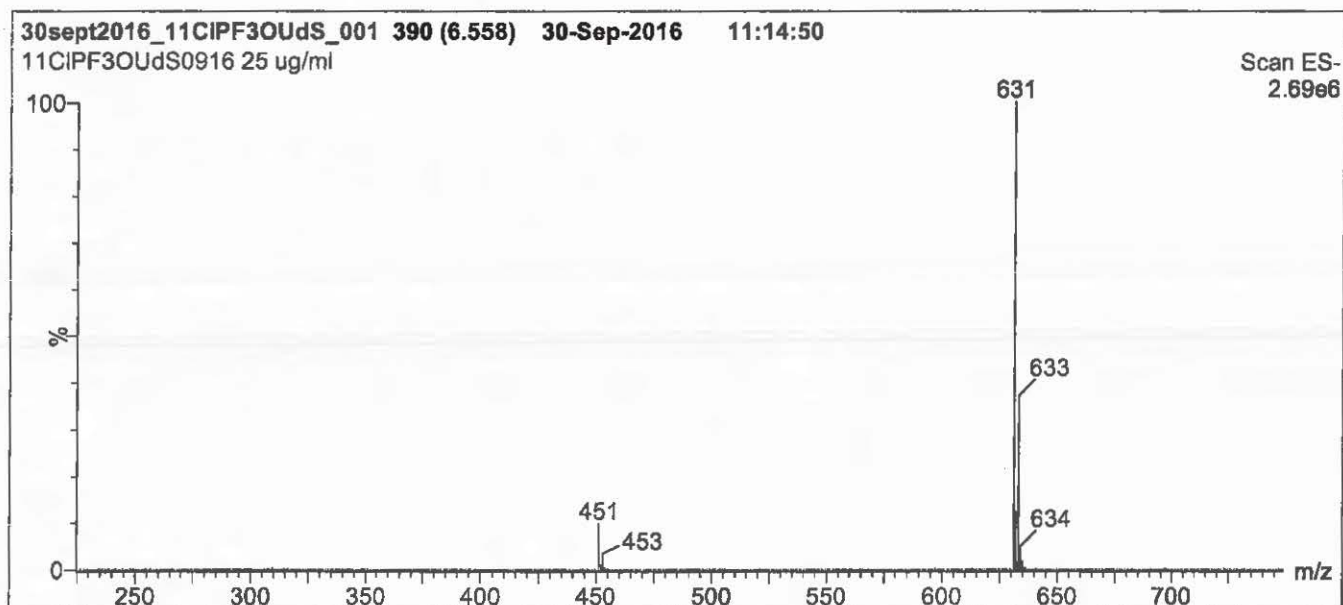
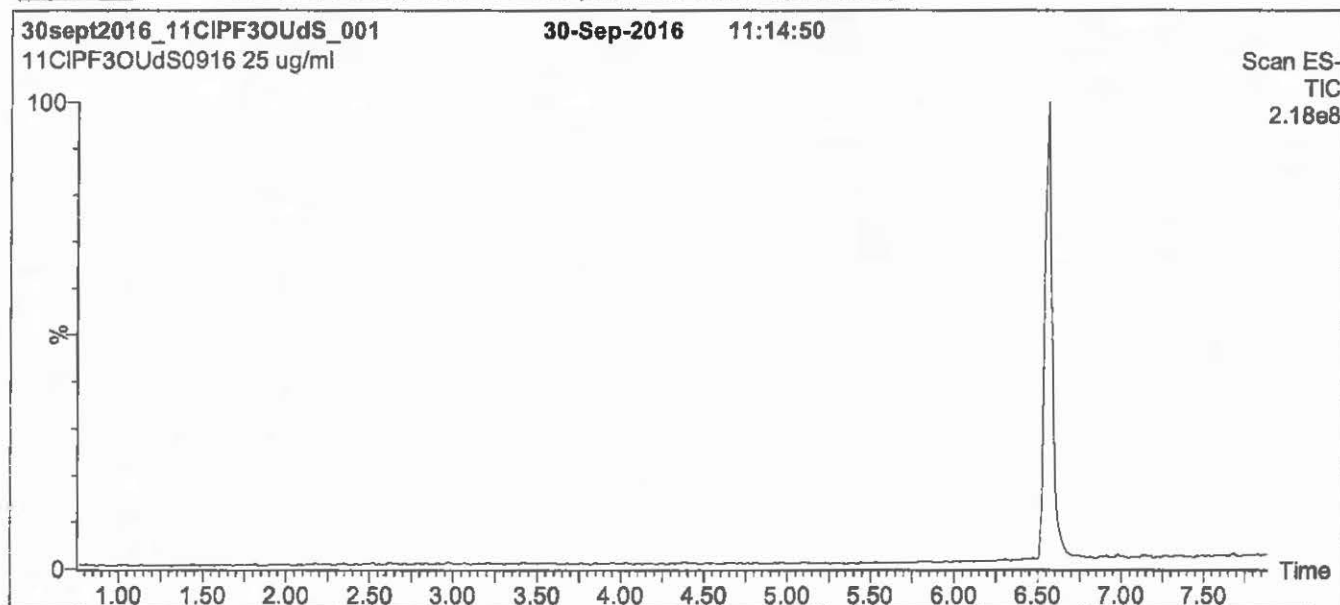
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).



\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*



**Figure 1: 11CI-PF3OUdS; LC/MS Data (TIC and Mass Spectrum)**



**Conditions for Figure 1:**

**LC:** Waters Acquity Ultra Performance LC  
**MS:** Micromass Quattro *micro* API MS

**Chromatographic Conditions**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient

Start: 50% (80:20 MeOH:ACN) / 50% H<sub>2</sub>O  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 7 min and hold for  
1.5 min before returning to initial conditions in 0.5 min.  
Time: 10 min

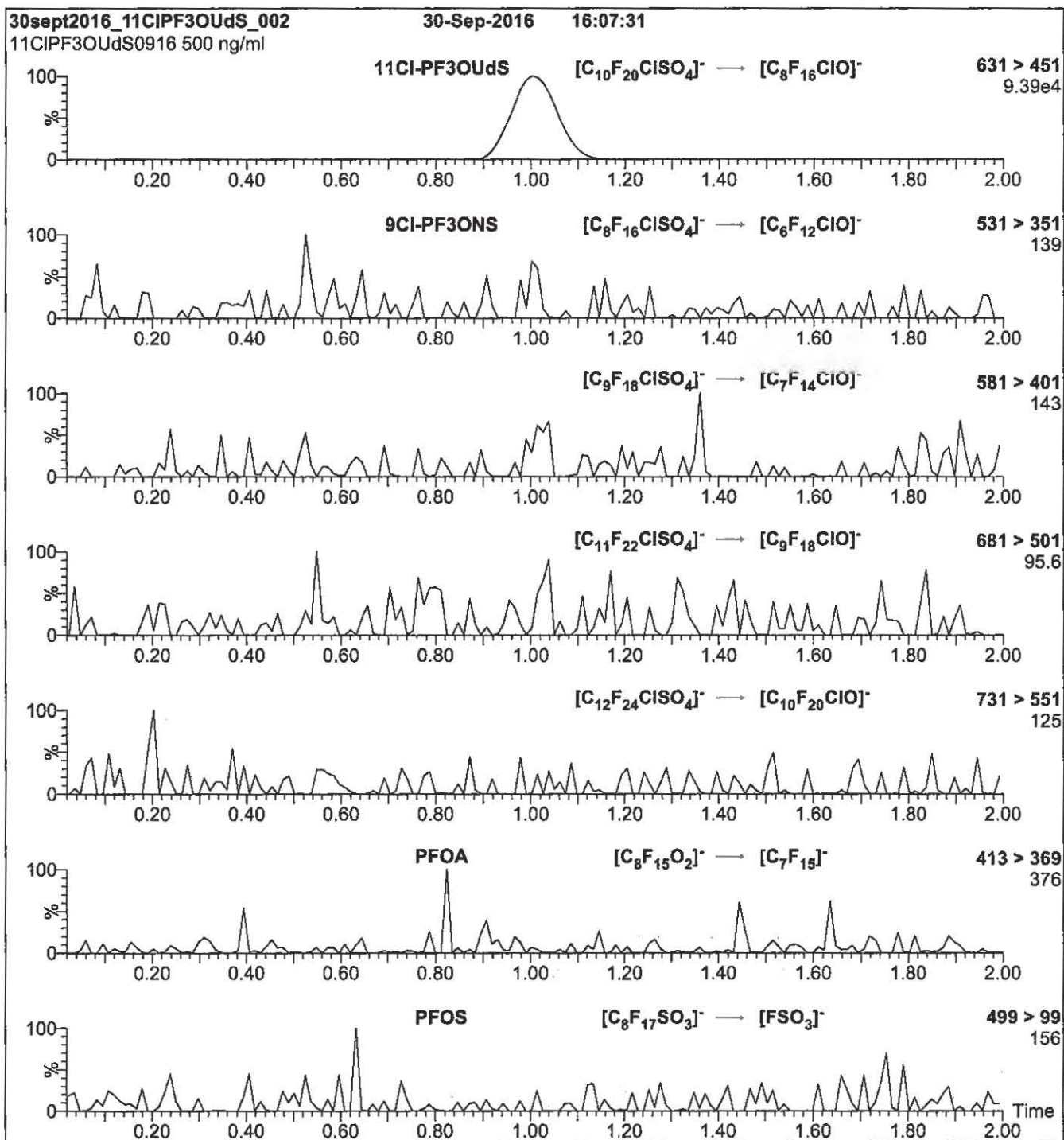
Flow: 300  $\mu$ l/min

**MS Parameters**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 3.00  
Cone Voltage (V) = 45.00  
Cone Gas Flow (l/hr) = 50  
Desolvation Gas Flow (l/hr) = 750

**Figure 2:** 11CI-PF3OUdS; LC/MS/MS Data (Selected MRM Transitions)



**Conditions for Figure 2:**

Injection: Direct loop injection  
10  $\mu$ l (500 ng/ml 11CI-PF3OUdS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H<sub>2</sub>O  
(both with 10 mM NH<sub>4</sub>OAc buffer)

Flow: 300  $\mu$ l/min

**MS Parameters**

Collision Gas (mbar) = 3.24e-3  
Collision Energy (eV) = 20



Reagent

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**LC4 : 2FTS\_00003**